

## APPLICATIONS FOR ADMISSION AND FOR TRANSFER

The Constitution provides that the Board of Direction shall elect or reject all applicants for *Admission* or for *Transfer*, and, in order to determine justly the eligibility of each candidate, the Board must depend largely upon the Membership for information.

This list is issued to members in every grade for the purpose of securing all such available information, and every member is urged to scan carefully each monthly list of candidates and to furnish the Board with data in regard to any applicant which may aid in determining his eligibility. It is the *Duty* of all *Members* to the *Profession* to assist the Board in this manner.

It is especially urged, in communications concerning applicants, that errors in the record be pointed out and a *Definite Recommendation as to the Proper Grading in Each Case* be given, inasmuch as the grading must be based upon the opinions of those who know the applicant personally, as well as upon the nature and extent of his professional experience. If facts exist derogatory to the personal character or to the professional reputation of an applicant, they should be promptly communicated to the Board. *Communications Relating to Applicants are considered by the Board as Strictly Confidential.*

The Board of Direction will not consider the applications herein contained from residents of North America until the expiration of thirty (30) days, and from non-residents of North America until the expiration of ninety (90) days from February 1, 1930.

### MINIMUM REQUIREMENTS FOR ADMISSION

Grade	General Requirement	Age	Length of Active Practice	Responsible charge of work
Member	Qualified to design as well as to direct work	32 years	12 years*	5 years
Associate Member	Qualified to direct work	25 years	8 years*	1 year
Junior	Qualified for sub-professional work	18 years†	4 years*	
Affiliate	Qualified by scientific acquirements or practical experience to co-operate with engineers			
Fellow	Contributor to the permanent funds of the Society			

\* Graduation from a school of engineering of recognized reputation is equivalent to 4 years active practice.

† Membership ceases at age of 32 unless transferred to higher grade.

# LIST OF APPLICANTS.

Names and Addresses of Applicants for Admission and for Transfer on this List,  
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The fact that applicants give the names of certain members as references does not necessarily mean that such members endorse.

The number in the center above each record indicates the serial number of the applicant for the current year, and that at the left the district in which he resides.

The abbreviations in *Italics* represent, respectively, *TT*, Total Time; *SP*, Sub-Professional Work; *P*, Professional Work; *RC*, Responsible Charge; *D*, Design. The figure for Total Time is determined by adding one-half the time spent in Sub-Professional Work to the time spent in Professional Work. The figures showing the amount of time spent in Responsible Charge and on Design are the estimate of the Applicant. The allowance of four years for graduation or of one-half of a year for each academic year successfully completed in an engineering college without graduation is included in Total Time and Professional Work.

## FOR ADMISSION

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(9) ALLEN, CHARLES WINSOR, 65 Thirteenth Ave., Columbus, Ohio. (Age 24. Born McArthur, Ohio.) 1929 B. C. E., Ohio State Univ. *TT* 4: *P* 4.—Summer 1928 Laborer, U. S. Geological Survey, building concrete stream recorders.—Summer 1927 and June 1929 to date at Ohio State Univ., first as Instrumentman and Notekeeper on topographic and general surveys, June-Sept. 1929 Jun. Research Engr., Eng. Experiment Station, gathering and compiling stream flow data, and since Nov. 1929 Instructor, Dept. of Civ. Eng. *TT* 4: *P* 4. Refers to E. F. Coddington, L. Lee, C. T. Morris, J. C. Prior, J. R. Shank, C. E. Sherman, R. C. Sloane.

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(15) AMES, ELMER RUEL, Texas Creosoting Co., Orange, Tex. (Age 34. Born Angels Camp, Cal.) 1917 B. A. in Civ. Eng., Leland Stanford, Jr. Univ. *TT* 4: *P* 4.—Summers 1914 and 1915 Chainman and Rodman with Budd & Widdows, Civ. Engrs. and E. K. Dupont, Surveyor, Stockton, Cal.—Summer 1916 Chainman, Rodman, Levelman and Transitman for Associated Oil Co., Avon, Cal., and for County Surveyor, Martinez.—Dec. 1916 to Jan. 1917 Axeman and Rodman, San Francisco County.—May 1917 to Sept. 1919 with U. S. Army, at 1st Officer's Training Camp, Presidio of San Francisco, Cal., commissioned 2nd Lt. of Infantry, O. R. C. (Aug. 1917), Provisional 2nd Lt. of Infantry, Regular Army (Oct. 1917) and 1st Lt. (April 1918), in France (9 months), commanded Infantry Co. (5 months), student Sorbonne Univ., Paris (4 months).—Sept. 1919 to Jan. 1921 Petroleum Engr. associated with Carl H. Beal, San Francisco, on appraisal and valuation of oil lands and on engineering problems, estimating, computing, compiling and writing reports, ½ year being in responsible charge of work and office. *TT* 1.3: *P* 1.3: *RC* 0.5.—Jan. to April 1921 Valuation Engr., Pacific Oil Co., San Francisco, valuation report on oil properties. *TT* 0.3: *P* 0.3.—April 1921 to March 1923 Asst. Res. Geologist, Midway Div., Associated Oil Co., Fellows, Cal., on petroleum and engineering problems, map work, sub-surface structure interpretation, estimating, inspecting and drafting in connection with operation of oil-producing properties. *TT* 1.9: *P* 1.9.—March 1923 to Dec. 1924 Petroleum Engr., Elliott Core Drilling Co., on operation, sales, service and design of rotary core-drilling equipment for oil wells. *TT* 1.7: *P* 1.7.—Dec. 1924 to July 1927 California Mgr., Henry L. Doherty & Co. and Empire Gas & Fuel Co., in charge of operations, superintending drilling, producing, leasing oil properties, construction of derricks, camp, tankage, etc. *TT* 2.6: *P* 2.6: *RC* 2.6.—July 1927 to Aug. 1929 Mid-Continent and Gulf Coast Mgr., Elliott Core Drilling Co., Houston, Tex., in charge of manufacture, design, distribution and service of oil-well core-drilling equipment in five states. *TT* 2: *P* 2: *RC* 2.—Aug. 1929 to date Engr. in charge of Petroleum Dept., Texas Creosoting Co., Orange, Tex., on development of standards and specifications for creosoted construction material in petroleum industry. *TT* 0.5: *P* 0.5: *RC* 0.3.—*TT* 14.3: *P* 14.3: *RC* 5.4. Refers to J. M. Evans, H. R. Farnsworth, F. P. Hamilton, H. M. Jones, C. M. Kerr, C. D. Marx, W. H. Meier, R. B. Moran, C. B. Wing, R. L. Wing.

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(9) **BELL, FRANCIS LEONARD**, 1601 West Fifth Ave., Gary, Ind. (Age 30. Born Marshall, Tex.) 1917 to 1922 Student in Civ. Eng. (3 years) and Elec. Eng. (2 years), Agricultural and Mechanical Coll. of Texas. *TT 2.5: P 2.5.*—July 1922 to Feb. 1924 Structural Steel Detailer, and Feb. 1925 to Jan. 1929 Structural Steel Checker, Gary (Ind.) Plant, American Bridge Co., detailing and checking shop drawings for buildings and bridges. *TT 5.5: P 5.5.*—Feb 1924 to Feb. 1925 Standard Bldg. Engr., Chicago office, Truscon Steel Co., on design and design drawings for small mill and office buildings, ladders, ventilators, concrete foundations and retaining walls. *TT 1: P 1: RC 1: D 1.*—Jan. to Dec. 1929 Executive Secy.-Treas., Midwest Radio Trades Association, promotional, trade relations, merchandising and technical. *TT 0.8: P 0.8: RC 0.8.*—Dec. 1929 to date with F. H. Wells, Cons. Structural Engr., Chicago, Ill., detailing and checking structural steel for theatres and small structures. *TT 0.2: P 0.2.*—*TT 10: P 10: RC 1.8: D 1.* Refers to F. D. Collins, F. W. Dencer, P. M. Louwerse, A. P. Ludberg, A. F. Reichmann, C. E. Webb, F. H. Wells.

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(1) **BERTRAN, JUAN MANUEL**, P. O. Box 125, San Juan, Porto Rico. (Age 32. Born Humacao, Porto Rico.) 1918 C. E., Cornell Univ. *TT 4: P 4.*—1918 to 1919 Rodman, Chairman, Levelman and Transitman, Baltimore & Ohio R. R. *TT 1.6: P 1.6: RC 0.6: D 0.5.*—1920 Asst. Engr. on surveys, irrigation works and reinforced concrete structures, South Porto Rico Sugar Co., Ensenada, Porto Rico. *TT 0.7: P 0.7: D 0.7.*—1920 to date Civ. Engr. and Contr., on design and building of reinforced concrete structures, etc.; designed school buildings of Yabucoa for Insular Govt. of Porto Rico, built city halls of Naguabo and Ceiba, also water-supply system for Ceiba; designed and built branches at Santurce, Humacao and Cayey for Banco Comercial de Puerto Rico, and branch at Rio Piedras for Roig Commercial Bank, also concrete warehouses at Port Humacao for Mendez Lumber & Trading Co. *TT 9: P 9: RC 9: D 9.*—*TT 15.3: P 15.3: RC 9.5: D 10.2.* Refers to E. Baez Rodriguez, R. A. Gonzalez, R. J. F. Lucchetti, A. S. Lucchetti-Otero, S. Quinones, R. Ramirez, E. Totiti y Torres.

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(1) **BHARADWAJ, PANDIT RAM NATH**, Joginder Nagar, P. O., Mandi State, Punjab, India. (Age 34. Born Mukerian, Hushiar Pur Dist., Punjab, India.) 1916 Sub-Overseer, Govt. School of Eng., Rasul, Punjab, India. 1924 Diploma in Civ. Eng., Crystal Palace School of Practical Eng., London, England.—Oct. 1916 to May 1917 Surveyor, Sutluj Valley Project (40 miles by 10 miles). *TT 0.4: SP 0.1: P 0.3.*—May 1917 to Oct. 1918 Sub-overseer, Barrack Furniture Dept., Military Works Service, Lahore, Punjab, India. *TT 1.5: P 1.5.*—Oct. 1918 to April 1920 Sub-Overseer in charge of maintenance of Sadiqua Canal and taking out quantities and estimating for new canals of Sutluj Valley Project in Bahawal Pur Irrigation. *TT 1.5: P 1.5: D 1.5.*—April 1920 to April 1923 Sub-Overseer in charge of maintenance and construction of buildings, roads and culverts and construction of bridge (24 spans, each 25 ft.). *TT 3: P 3: D 3.*—May 1923 to May 1924 student in Civ. Eng., Crystal Palace School of Practical Eng., London, England.—Jan. 1925 to date with Hydro-Elec. Dept., Punjab, India, as Overseer (over 4 years) and Sub-Divisional Officer; work consisted of theodolite and tachemometrical survey, quantities and estimating 2-ft. gauge K. V. tramway (17½ miles), 2½-ft. gauge K. V. railway (26 miles), trigonometrical and tachemometrical survey of Uhl River hydro-electric main power house site; survey, quantities, estimating and construction of hydro-electric subsidiary scheme (2 sets of 480 kw. Pelton wheel driven alternators, switch gear, etc.) comprising two headworks, two flumes about 3 miles long, steel penstock pipe (diameter 18 in., 1930 ft. long), forebay, power house, building, machine foundations, transformer substation, tailrace (500 ft. long), retaining walls, pole derricks, etc.; maintenance and construction of roads, culverts, bridges and buildings (Rs. 1 172 900); taking out quantities and estimating and excavation of main power house, pipe-line transformer station and haulageway, construction of reinforced concrete bridges, water supply scheme and maintenance of roads and buildings, etc. (Rs. 251 000). *TT 5: P 5: RC 1.4: D 3.9.*—*TT 12.4: SP 0.1: P 12.3: RC 1.4: D 8.4.* Refers to B. C. Battye, D. S. McPhail, K. Singh. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

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(14) **BROWN, ELMER LEIGH**, 3306 Burt St., Omaha, Nebr. (Age 52. Born Detroit, Minn.) Sept. 1898 to July 1901 Rodman, Northern Pacific R. R. Co. *TT 1.4: SP 1.4.*—Aug. 1901 to Jan. 1902 and April 1903 to Jan. 1904 Instrumentman, Great Northern R. R. Co. *TT 1.1: SP 1.1.*—March 1904 to March 1911 Asst. City Engr., City of Fargo, N. Dak. *TT 7: P 7: RC 7: D 2.*—April 1911 to Jan. 1912 Engr. Inspector, U. S. Reclamation Service, Klamath Falls, Ore. *TT 0.4: SP 0.4.*—Feb to Oct. 1912 Foreman on construction,



Oakland, Antioch and Eastern R. R. TT 0.3: SP 0.3.—Oct. 1912 to March 1918 Asst. Res. Engr., California Highway Comm., Sacramento, Cal. TT 4.2: SP 1.2: P 3: RC 3.—June 1918 to July 1919 Jun. Highway Engr., Illinois Prison Comm., Joliet, Ill., on prison construction. TT 1.1: P 1.1: RC 1.1: D 0.2.—Aug. 1919 to date Highway Engr., U. S. Bureau of Public Roads, Omaha, Nebr. TT 10.4: P 10.4: RC 10.4: D 3.—TT 25.9: SP 4.5: P 20.4: RC 21.4: D 5.2. Refers to H. C. Boyden, W. V. Buck, G. L. Campen, G. P. Dorsey, C. Shoemaker, O. K. Williamson.

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(15) BROWN, JOSEPH CLYDE, Box 114, Bunkle, La. (Age 42. Born Howard, Ga.) 3 years student, Georgia School of Technology. TT 1.5: P 1.5.—Sept. 1908 to April 1915 Supt. of Constr., until Aug. 1911 with Central of Georgia Power Co., on transmission line high-tension substation, then with J. B. McCrary Co. on power plant, steam, electric, transmission and pipe lines, pumping stations, sewers, filter plants and deep wells. TT 6.5: P 6.5: RC 6.5.—April 1915 to July 1917 City Supt., Water, Light and Street Depts., High Springs, Fla. TT 1.2: P 1.2: RC 1.2.—July to Sept. 1917 Supt., pumping plant, W. Z. Williams Co., in charge of construction. TT 0.2: P 0.2.—Sept. 1917 to April 1919 Capt., U. S. Army, until March 1918 with Corps of Engrs. as Officer in charge of construction of water and electric systems, Camp Johnson, Jacksonville, Fla., then Constr. Quartermaster Constr. Div., in charge of all construction at Camp Jackson, S. C. TT 1.8: P 1.8: RC 1.8.—April to Sept. 1919 with U. S. War Dept. as Officer in charge of accounts and property claims, Washington, D. C. TT 0.5: P 0.5: RC 0.5.—Sept. 1919 to Sept. 1922 Supt. of Constr., Powell Paving Co., in charge of concrete road and bridge construction, grading, buying material and financing operation. TT 3: P 3: RC 2.—Sept. 1922 to March 1925 Hauling Contr., Highway Transportation Co., Inc., on highway construction. TT 1.5: P 1.5: RC 1.5.—March 1925 to date Supt. of Constr., J. B. McCrary Co., in charge of highway construction in North and South Carolina, Georgia, Florida, Alabama, Tennessee, Virginia and Louisiana, concrete and asphalt roads, concrete and timber bridges and culverts, excavation, purchasing materials, and in charge of financing operation. TT 4.9: P 4.9: RC 4.—TT 21.1: P 21.1: RC 17.5. Refers to W. H. Caruthers, J. E. Craig, S. C. Dreyfus, R. D. Jordan, G. L. Moulton, G. R. Solomon, J. D. Waldrop.

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(7) BRUSH, GORTON WILLIAM, 1211 Chittock Ave., Jackson, Mich. (Age 35. Born Buffalo, N. Y.) 1916 E. E. Bryant & Strattons Eng. School, Buffalo, N. Y.—June 1916 to Sept. 1917 Draftsman at Buffalo, N. Y., until June 1917 with Smith Elevator Co., made field measurements, erection drawings, ordered material, etc., then with D. H. Stoll Co., checking drawings, patterns and machines. TT 1.2: P 1.2.—Sept. 1917 to Feb. 1918 Draftsman and Squad Boss, Curtiss Eng. Corporation, Garden City, N. Y., had charge of squad on design and drawings for hull of N. C. I. flying boats. TT 0.4: P 0.4.—Feb. to Dec. 1918 Asst. Chf. Despatcher, Standard Aircraft Corporation, Elizabeth, N. J., in direct charge of Despatcher Dept. (which controlled production), advised on production schedules, routing, etc., being Technical Advisor to Chf. Despatcher. TT 0.9: P 0.9: RC 0.9.—Feb. 1919 to July 1921 Plant Engr. and Acting Master Mechanic, Fibre Corporation, Lockport, N. Y., in direct charge of Maintenance Dept., and operation of power plant; redesigned and rebuilt power plant, electrical and steam distribution system and designed and built asbestos mill-board plant. TT 2.5: P 2.5: RC 2.5: D 1.5.—Aug. 1921 to May 1922 in private practice at Citronelle, Ala., redesigned city electric-light plant, etc., made mineral maps, patent office drawings, etc. TT 0.8: P 0.8: RC 0.8: D 0.4.—June 1922 to May 1923 and June 1925 to Feb. 1926 Designer and Squad Boss, Woodward (Ala.) Iron Co., designing, estimating, ordering material and supervising ore-tipple and crusher installation, additions to by-product plant, condenser installation for turbo blowers, relining and improvements to blast furnaces, and (after June 1925) in charge of completion of Feld gas washer installation, B. & W. gas fired boiler and stoker-fired Stirling boiler plants, and blast furnace improvements. TT 1.7: P 1.7: RC 1.7: D 1.7.—June 1923 to May 1925 Checker and Squad Boss, Nashville (Tenn.) Bridge Co., checking, designing, ordering material and supervising draftsman, in charge of hotel and office building (each 14 stories), theatre, church, cement plant, barges, etc. TT 2: P 2: RC 2: D 1.—March 1926 to Aug. 1929 Designing Engr. and Squad Boss, Tennessee Coal, Iron & Ry. Co., Birmingham, Ala., in charge of engineering work on new blast-furnaces, power plant and strip-mill extension and improvements to sheet and jobbing, rail, plate and merchant mills, etc. TT 3.5: P 3.5: RC 3.5: D 3.5.—Sept. 1929 to date Structural Engr., Civ. and Hydr. Dept. Stevens & Wood, Inc., Jackson, Mich., on supervision of design and detailing of outdoor electric substations and switching structures, and direction and supervision of structural steel design for hydro plants, office and service buildings, garages, etc. TT 0.4: P 0.4: RC 0.4: D 0.4.—TT 13.6: P 13.6: RC 11.9: D 8.6. Refers to L. C. Anderson, E. M. Burd, F. H. Crockard, D. A. Davis, A. J. Dyer, F. B. Kiel, E. Maerker, J. L. Schmitz.

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(13) **CAMP, WILMER ELI**, P. O. Box 934, Sacramento, Cal. (Age 40. Born Archer, Tex.) 1910 B. S. in E. E., Okla. Agri. and Mech. Coll. *TT 4: P 4*.—Sept. 1910 to April 1922 with Gen. Elec. Co., until July 1912 in Testing Dept., Schenectady, N. Y., and Pittsfield and Lynn, Mass., on machine erection, electrical testing and commercial engineering, then at San Francisco, Cal., on sales and design of irrigation and drainage pumping plants, power machinery and commercial engineering sales, consulting work for construction agencies. *TT 5.8: SP 5.8*.—April 1922 to date member of firm, Camp & French, Contr., Engrs., on design and installation of irrigation and drainage pumping plants; has had charge of design and construction of over forty irrigation and drainage pumping works, involving hydraulics, excavations, foundations, concrete and steel structures and plant testing, including some projects on properties of Alaska Packers Association, Rich & Fisher Rice Ranch, and California National Bank, all of Sacramento, Farm Lands Investment Co., Marysville, Cal., Glenn Colusa Irrigation Dist., Willows, Cal., Holland Land Co., and Reclamation Dist. No. 999, Clarksburg, Cal., Liberty Farms Co., San Francisco, and Liberty Reclamation Dist., Rio Vista, Cal. *TT 7.7: P 7.7: RC 7.7: D 2*.—*TT 17.5: SP 5.8: P 11.7: RC 7.7: D 2*. Refers to J. C. Boyd, D. Butler, J. C. Fales, A. Givan, J. W. Gross, R. L. Jones, H. M. Rich, R. U. St. John.

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(1) **CANADA, JOHN BRADLEY**, 103 Melrose Rd., Mountain Lakes, N. J. (Age 22. Born Dayton, Ohio.) 1929 B. S., Sheffield Sci. School, Yale Univ. *TT 4 P 4*. Refers to C. T. Bishop, R. S. Kirby, R. H. Suttle, J. C. Tracy.

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(4) **CARLIN, PHILIP HENRY**, Dept. of City Transit, City Hall Annex, Philadelphia, Pa. (Age 29. Born Philadelphia, Pa.) Registered Prof. Engr., State of Pennsylvania. 1922 B. S. in C. E., Univ. of Pa. *TT 4: P 4*.—July 1922 to Jan. 1923 with Pennsylvania State Highway Dept., Dist. No. 7, as Inspector on construction of 14 miles of concrete roads in eastern Pennsylvania, including inspecting materials, giving lines and grades, supervising construction of pavement, bridges, cross-drains, headwalls, guard rail, etc. *TT 0.3: SP 0.3*.—Feb. to Nov. 1923 Eng. Asst., Bldg. Dept., Bell Telephone Co. of Pennsylvania, Philadelphia, Pa., making studies and preliminary plans and checking architect's plans and specifications for central office buildings, checking and approving design of alterations to central offices and making investigations and reports on strength of buildings. *TT 0.8: P 0.8*.—Dec. 1923 to Feb. 1924 Field Engr. and Asst. Estimator, Franklin M. Harris & Co., Contrs., Philadelphia, in charge of estimating cost of reproducing Bryn Mawr, Lansdowne, Lancaster, Wilkes-Barre and Pittston, Pa., office buildings, for Bell Telephone Co., also estimating building work and investigating alleged settlement of Pier 84, South Wharves, Philadelphia. *TT 0.3: P 0.3: RC 0.3*.—March to June 1924 Field Engr., Industrial Eng. Co., Contrs., at Philadelphia, on construction of 7-story brick and concrete warehouse, in charge of engineering, interpreting plans and specifications, giving lines and grades, and assisting in supervision. *TT 0.3: P 0.3: RC 0.3*.—July to Oct. 1924 Structural Detailer, American Bridge Co., Pencoyd, Pa., on steel for large buildings, some checking. *TT 0.2: SP 0.2*.—Nov. 1924 to date with Dept. of City Transit, Philadelphia, on plans and specifications for Broad St. subway system, until Dec. 1926 being Designer and Draftsman, designing or checking design of and making drawings for steel and concrete subway structure from Columbia Ave. to Fern Rock terminal yard, also Cumberland St. electric substation, administration building, general repair and inspection shops, and since Jan. 1927 in responsible charge (with another) of specifications for work supervised by Engr. of Design, except contracts in charge of Prin. Asst. Engr.; prepared (\$786 000), collaborated (\$555 000) and assisted on (\$13 655 000) specifications for subway work, including station finish, alterations, electric freight elevators, tracklaying, heating, plumbing and fire-protection systems, electric traveling cranes, machinery and shop equipment, Broad St. and Ridge Ave. Subways, repaving streets, relocating express tracks, etc.; since July 1929 also Asst. to Engr. of Design, in conjunction with another, making engineering reports, writing publicity articles for Broad St. subway, etc. *TT 5.2: P 5.2: RC 3: D 3*.—*TT 11.1: SP 0.5: P 10.6: RC 3.6: D 3*. Refers to H. C. Berry, J. E. Boatrite, S. Harris, L. B. Manley, W. S. Pardoe, C. H. Stevens, W. S. Sullivan.

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(4) **CHAMBERLIN, RALPH LEO**, 116 Richland Ave., Trenton, N. J. (Age 22. Born Rockaway, N. J.) 1929 B. S. in C. E., Rutgers Univ. *TT 4 P 4*.—Aug. 1929 to date Draftsman, American Bridge Co., Trenton, N. J. *TT 0.3: SP 0.3*.—*TT 4.3: SP 0.3: P 4*. Refers to J. E. Elliott, R. R. Graham, H. N. Lendall.

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(10) **CORBETT, DON MELVIN**, Care, U. S. Geological Survey, Tuscaloosa, Ala. (Age 29. Born Smithfield, Utah.) 1923 B. S. in Agri. Eng., Utah Agri. Coll. *TT 4: P 4*.—

Summers on soil moisture and research studies for Irrigation and Drainage and Physics Depts., Utah Agricultural Coll.—June to Sept. 1923 Rodman, U. S. Bureau of Reclamation, Salt Lake City, Utah. *TT 0.2: SP 0.2.*—Oct. 1923 to May 1924 Instructor in Physics and Mathematics, South Cache Senior High School.—June to Sept. 1924 with State Engr. of Utah as Deputy Water Commr. for distribution of waters for irrigation in Southern Cache Valley. *TT 0.3: P 0.3.*—Oct. 1924 to date with U. S. Geological Survey, until Jan. 1928 as Jun. Engr., assisting in maintenance and operation of gauging stations in Utah and Nevada and computation of stream-flow records for Salt Lake City Dist. office, then Jun. and Asst. Engr. in responsible charge of seepage investigations on lower Rio Grande (4 months) and operation and maintenance of several gauging stations on upper Rio Grande (15 months), computing data, etc.; since Aug. 1929 Asst. Engr., Tuscaloosa Dist., on stream-flow measurements, analysis and computation of data. *TT 5.3: P 5.3: RC 4.*—*TT 9.9: SP 0.2: P 9.7: RC 4.* Refers to C. E. Ellsworth, N. C. Grover, J. C. Hoyt, O. W. Israelson, L. M. Lawson, C. E. McCashin, A. B. Purton, E. Schaub, R. B. West.

**(10) CROOM, THOMAS GREEN,** P. O. Box 242, Concord, N. C. (Age 23. Born Weyeross, Ga.) 1929 B. S. in C. E., Univ. of N. C. *TT 4: P 4.*—Summer 1925 Rodman with Geo. Kershaw, Hendersonville, N. C., survey and subdivision work.—Summer 1926 Instrumentman, Eng. Dept., Asheville, N. C.—Sept. 1927 to Sept. 1928 (co-operative work while student) office and field work, M. of W. Dept., Southern Ry. Co., Danville, Va.—June 1929 to date with Bureau of San. Engr., North Carolina State Board of Health, on sanitary engineering, including water, milk, and sewage control for City of Concord and Cabarrus County, N. C. *TT 0.5: P 0.5.*—*TT 4.5: P 4.5.* Refers to G. M. Braune, T. F. Hickerson, T. Saville.

**(13) De COSTA, JOSEPH DAVID,** 41 Lenox Road, Berkeley, Cal. (Age 29. Born Hanford, Cal.) 1924 B. S. in Civ. Eng., Univ. of Cal. *TT 4: P 4.*—May 1924 to Jan. 1929 with East Bay water Co., until March 1926 as Asst. Engr. in charge of investigations for construction of hydraulic fill dam and diversion tunnel and of camp sanitation (1 year), acting as Field Engr. on concrete lining, Upper San Leander supply tunnel, in charge of construction of control tower, portals and other small structures (8 months) and writing reports for Upper San Leander project and mechanical analyses of puddle material from hydraulic fill dam (2 months); March 1926 to March 1928 Asst. San. Engr. and after March 1928 San. Engr., in charge of water purification, etc., including supervision of operation of modern filtration plants. *TT 4.6: P 4.6: RC 4.6.*—Jan. 1929 to date San. Engr., East Bay Municipal Utility Dist., in charge of purification, etc., general layout of and construction on new filters. *TT 1.1: P 1.1: RC 1.1.*—*TT 9.7: P 9.7: RC 5.7.* Refers to A. J. Calleri, C. G. Gillespie, F. W. Hanna, G. W. Hawley, C. G. Hyde, J. S. Longwell, G. V. Rhodes.

**(15) DIEHL, EDWARD RUSSELL,** City Engr.'s Office, Enid, Okla. (Age 33. Born Boone, Iowa.) 1919 B. S. C. E., Iowa State Coll. *TT 4: P 4.*—1919 to 1922 Asst. Engr. with Chas. O. Cappel, Cons. Engr., on paving, sewers, drainage, water supply, surveys, etc. *TT 3: P 3: RC 3: D 3.*—1922 to 1923 Paving Engr., City of Ames, Iowa, on design and construction of paving, design of water-works reservoir, and construction of sewers. *TT 1.5: P 1.5: RC 1.5: D 1.5.*—1923 to 1924 with U. S. Engr. Dept., Seattle, Wash., as Inspector on suction and dipper dredge work, including blasting, Instrumentman on triangulation and harbor surveys, office calculations. *TT 0.5: SP 0.5.*—1924 to 1925 Asst. Constr. Engr., Mason County, Wash., surveys and construction on new location for county highway. *TT 1: P 1: RC 1: D 1.*—1925 to date Asst. Engr., until 1928 with Div. of Sewers, Miami, Fla., on design, etc., then with City of Enid, Okla., on design and construction of sewage-disposal improvements and sanitary and storm sewers. *TT 4.5: P 4.5: RC 4.5: D 4.5.*—*TT 14.5: SP 0.5: P 14: RC 10: D 10.* Refers to T. R. Agg, F. C. Magruder, A. Marston, C. H. Rightmire, E. R. Stapley.

**(10) DORNBLATT, BERNHARD,** P. O. Box 202, Athens, Ga. (Age 27. Born Athens, Ga.) 1924 B. S. in Civ. Eng., Univ. of Ga. *TT 4: P 4.*—Sept. 1924 to Oct. 1925 Draftsman and Squad Leader in drafting room, Road Dept., South Carolina Highway Dept. *TT 0.5: SP 0.5.*—Oct. 1925 to date Field Draftsman, Transitman and Asst. to Locating Engr., Georgia State Highway Dept. *TT 2.1: SP 2.1.*—*TT 6.6: SP 2.6: P 4.* Refers to J. W. Barnett, C. M. Strahan, C. W. Wright.

**(7) EDWARDS, FRANK WILLIAM,** 533 South Van Buren St., Iowa City, Iowa. (Age 24. Born Williamsburg, Iowa.) 1923 B. S. in Gen. Eng., Univ. of Iowa. *TT 4: P 4.*—June to Sept. 1928 Budget Bureau Clerk, Commonwealth Edison Co., Chicago, Ill., checking expenditures and preparing monthly budget summary on construction. *TT 0.2: SP 0.2.*—Sept. 1928



to date Engr., Hydr. Dept., Management & Eng. Corporation, Chicago, Ill., until Sept. 1929 at Dubuque, Iowa, on field and office work, stream flow, hydro-electric plant efficiency tests and operating curves, then in Iowa Univ. Hydr. Laboratory in charge of building model of a hydro-plant and site for study of silt problem at site. TT 1.3: P 1.3: RC 0.3.—TT 5.5: SP 0.2: P 5.3: RC 0.3. Refers to R. B. Kittredge, F. A. Nagler, C. C. Williams, S. M. Woodward, D. L. Yarnell.

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(9) ENGSTROM, LEONARD MICHAEL, Box 93, Frankfort, Ky. (Age 27. Born Eureka, Utah.) 1928 B. S. in Civ. Eng., Univ. of Utah. TT 4: P 4.—Aug. 1928 to date with State Bridge Office, Frankfort, Ky., tracing, detailing and designing. TT 1.4: P 1.4.—TT 5.4: P 5.4. Refers to C. R. Bloxton, H. R. Creal, P. D. Gillham, R. B. Ketchum.

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(1) FABER, SVEN ERIK, Hongkong & Shanghai Bank Bldg., Shanghai, China. (Age 38. Born London, England.) 1911 Associateship, and 1913 B. Sc. (Eng.), City and Guilds Inst., Univ. of London. 1912 Diploma, Imperial Coll. of Sci. TT 4: P 4.—June 1912 to Jan. 1913 Asst. Engr. to B. P. Wall, on survey, triangulation, traverse, leveling for proposed railway, French Congo, hydrographic survey of Lower Congo River, drafting locks and ship lifts. TT 0.3: SP 0.3: D 0.1.—Jan. 1913 to Jan. 1915 Res. Engr. to Huilleries du Congo Belge (Lever Bros., Ltd.), under B. P. Wall, on survey and location of light railways, supervision of factories, erection, development, exploration surveys. TT 2: P 2: D 0.6.—March to Dec. 1915 and May 1919 to Jan. 1922 with Trollope & Colls, Ltd., London, as Designer of steel-frame buildings, foundations, reinforced concrete tanks, retaining walls and factories, and (after May 1919) Res. Engr. in responsible charge of erection, textile-printing factories, Manchester, England, and layout of all new work, organization and equipment (under O. Faber). TT 3.5: P 3.5: RC 0.9: D 2.8.—Jan. 1916 to May 1919 with British Royal Flying Corps and Royal Air Force, as Pilot and finally Capt., in East Africa, Egypt and Palestine.—Jan. 1922 to May 1928 with Shanghai Municipal Electricity Dept., until March 1923 as Asst. Constr. Engr. on design and supervision of buildings, power house, substations and wharf, then Chf. Constructional Engr. in sole charge of design, construction and erection of buildings, 40 000-kw. extension, 22 000-v. switchhouse, circulating water culvert, pump and boiler houses, ash wharf, substations, etc. TT 6.4: P 6.4: RC 5.9: D 6.4.—May 1928 to Aug. 1929 Structural Engr., Andersen, Meyer & Co., Ltd., Shanghai, China, on design and construction of a wharf, theatre buildings, 8-story hotel, apartment houses, etc. TT 1.2: P 1.2: RC 1.2: D 1.2.—Aug. 1929 to date Cons. Civ. Engr. at Shanghai. TT 0.5: P 0.5: RC 0.5: D 0.5.—TT 17.9: SP 0.3: P 17.6: RC 8.5: D 11.6. Refers to H. Berents, A. E. R. deJonge, J. A. Ely, F. F. Fergusson, H. F. Meyer, E. C. Stocker.

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(3) FIELD, WILLIAM THOMPSON, 906 State St., Watertown, N. Y. (Age 41. Born Watertown, N. Y.)—June to Dec. 1910 Blueprint Boy (2 months) and Chairman, New York Central R. R. TT 0.7: SP 0.7.—Dec. 1910 to date in private practice at Watertown, N. Y., at present as The William T. Field Engineers, Inc.; has had charge of water-supply, water-works, sewerage, street and hydro-electric improvements, water supply and sewerage systems, water supply investigations, etc., for many cities (named in application); consulted by Cities of Ogdensburg, Oswego, Auburn, Rome and Syracuse, N. Y.; also several industrial and private interests, including pulp and paper mills for Carthage (N. Y.) and Dexter (N. Y.) Sulphite Pulp & Paper Cos., Oswegatchie Pulp & Paper Co., Gouverneur, N. Y., Brownville Board Co., Brownville and Harmon Paper Cos., Brownville, N. Y., Knowlton Bros. Co., Northern N. Y. Utilities, Watertown, N. Y., Antwerp (N. Y.) Light & Power Co., Niagara Lockport & Ontario Co. on Salmon River and Low Power Corporation, Sabattis, N. Y.; Skaneateles R. R., St. Lawrence & Adirondack R. R., DeKalb Junction, Lowville & Beaver River R. R., Lowville, N. Y., International Pulp Co., Northern Ore (now St. Joseph Lead Co.), New York Pyrites Co., Green Hill Min. Co. and New Jersey Zinc Co. TT 19: P 19: RC 19: D 19.—TT 19.7: SP 0.7: P 19: RC 19: D 19. Refers to J. W. Ackerman, W. H. Cushman, A. W. Harrington, M. B. Palmer, N. F. Pitts, Jr., R. Suter, M. W. Wipfler.

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(8) FONSECA, DAVID, 6964 Greenview Ave., Chicago, Ill. (Age 34. Born Guadalajara, Mexico.) 1921 B. S. in C. E., Univ. of Ill. TT 4: P 4.—March 1921 to May 1923 Asst. Engr., Compania Hidroelectrica e Irrigadora del Chapala, S. A., Guadalajara, Mexico, on extension of hydro-electric plant, gathering field data, hydraulic calculations, design of reinforced concrete structures and directing work in field. TT 1.1: SP 1.1.—May to Dec. 1923 Engr., Dept. of Irrigation, Mexico City, Mexico, collecting field data for design of irrigation projects. TT 0.3: SP 0.3.—Jan. to Sept. 1924 Structural Detailer, Chicago (Ill.) Bridge & Iron Works, detailing water and oil storage tanks, designing water-tank supports. TT 0.3: SP 0.3.—Sept. 1924 to Oct. 1926 Structural Designer, until May 1926



with Illinois Central R. R., Chicago, on design of structural steel bents for catenary support and of concrete structures for suburban electrification, then with Board of Local Improvements, Chicago, on design and investigation of reinforced concrete viaducts (Wacker Drive). *TT 1.6: SP 0.5: P 1.1.*—Oct. 1926 to March 1927 Field Engr., Huasteca Petroleum Co., Tampico, Mexico, planning and locating wells, pipe lines and pumping stations. *TT 0.5: P 0.5: RC 0.5.*—March 1927 to date Structural Designer, Byllesby Eng. & Management Corporation, Chicago, on power-station design. *TT 2.8: P 2.8: RC 2.*—*TT 10.6: SP 2.2: P 8.4: RC 2.5.* Refers to R. O. Anderson, C. A. Ellis, A. Engh, T. Pettersen, L. K. Whitcomb, Jr.

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(10) FRANKLIN, EDWIN MEIER, Care, State Highway Dept., Jackson, Tenn. (Age 22. Born St. Louis, Mo.) 1929 B. E., Vanderbilt Univ. *TT 4: P 4.*—Summer 1927 with U. S. Engrs., calculating and plotting charts on flood-control work, Tennessee River.—Summer 1928 with Plant Inspector, Div. of Tests, Tennessee State Highway Dept.—June 1929 to date Design Mix Inspector, Tennessee State Highway Dept., on design of concrete roadway base, keeping records of work, inspection of asphalt surface and making final records and estimates. *TT 0.8: SP 0.8.*—*TT 4.3: SP 0.3: P 4.* Refers to W. A. Coolidge, F. J. Lewis, D. D. McGuire, W. H. Schuerman.

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(13) GALLAGHER, JAMES, Box 1103, Sacramento, Cal. (Age 45. Born Branch Hill, Ohio.) 1908 C. E., Univ. of Cin. *TT 4: P 4.*—Sept. 1904 to Jan. 1905 Rodman on surveys. *TT 0.2: SP 0.2.*—Jan. to June 1906 Rodman and Chainman, Cleveland, Cincinnati, Chicago & St. Louis Ry. *TT 0.2: SP 0.2.*—June 1908 to Nov. 1909 Recorder and Clerk, Cincinnati Water Works, on reports. *TT 0.8: SP 0.8.*—Nov. 1909 to Nov. 1910 Asst. on Corps, Pennsylvania R. R. *TT 0.5: SP 0.5.*—Nov. 1910 to June 1914 Costkeeper, Ferro Concrete Constr. Co., on reinforced concrete building work, field and office, some concrete design. *TT 3: SP 0.5: P 2.5.*—June 1914 to Sept. 1915 not on engineering work.—Sept. 1915 to April 1916 Quantity Surveyor on building construction. *TT 0.5: P 0.5.*—April 1916 to June 1918 Jun. Structural Engr., and July 1918 to Oct. 1921 Senior Structural Engr., Interstate Commerce Comm., on railroad valuation. *TT 5.6: P 5.6: RC 3.3.*—Oct. 1921 to date with California Highway Comm. as follows: Oct. 1921 to May 1923 Jun. Structural Engr. on design of reinforced concrete girder, arch and timber bridges, steel trusses, etc.; May 1923 to Oct. 1926 Asst. Structural Engr., being Bridge Designer, Squad Boss, Chf. Draftsman and Office Engr.; on bridges and grade separations (about 40 annually, average \$1 200 000); Oct. 1926 to May 1927 Asst. Bridge Engr., being Acting Head of Bridge Dept. (8 months), in charge of design and construction, bridges and grade separations (about 25 contracts, total \$1 200 000); since May 1927 Asst. Bridge Engr., being Administrative Asst. to Bridge Engr., on preliminary investigation, design and construction of bridges and grade separations (28 contracts under way, totalling \$2 300 000). *TT 8.4: P 8.4: RC 6.9: D 5.*—*TT 22.7: SP 2.2: P 20.5: RC 10.2: D 5.* Refers to C. E. Andrew, C. H. Kromer, R. M. Morton, F. T. Oakley, C. S. Pope, T. E. Stanton, Jr., W. E. Stoddard.

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(1) GOLDSMITH, ABRAHAM MICHAEL, 44 High St., Perth Amboy, N. J. (Age 24. Born Perth Amboy, N. J.) Student in Civ. Eng., Rensselaer Polytechnic Inst. (3 years) and Brooklyn Polytechnic Inst. (1½ years). *TT 2: P 2.*—Summers 1921–1923 Timekeeper, Material Clerk, Jun. Engr. on lines and grades, Labor Foreman, Asst. to Jacob P. Goldsmith, Contr., Perth Amboy, N. J., on 3-story brick and steel building.—Summers 1924–1926 Jun. Engr. on surveys and tracing, and Engr. on drafting, with Ben Hershberg, Civ. Engr., Albany, N. Y.—June to Sept. 1927 Inspector and Representative of County Engr., Middlesex County, N. J., in charge on reinforced concrete road. *TT 0.2: P 0.2: RC 0.2.*—Sept. 1927 to March 1928 Engr. and Representative for Jacob P. Goldsmith, Perth Amboy, in charge of brick and steel construction. *TT 0.5: P 0.5: RC 0.5.*—March to July 1928 Engr. and Estimator, Elizabethport Iron & Steel Works, Elizabeth, N. J., on design, detail, estimating and shop supervision. *TT 0.5: P 0.5: D 0.5.*—July 1928 to June 1929 Structural Draftsman, Board of Transportation, New York City, acting as Steel Designer and Draftsman on tunnel alignment for a Brooklyn subway. *TT 0.9: P 0.9: D 0.9.*—June to Aug. 1929 Chf. Structural Draftsman, U. S. Army Ordnance Camp, Picatinny Arsenal, Dover, N. J., designing steel building. *TT 0.2: P 0.2: RC 0.2: D 0.2.*—Sept. 1929 to date Engr. with Saul Shaw & Co., Newark, N. J., assisting on design of steel buildings. *TT 0.4: P 0.4: D 0.4.*—*TT 4.7: P 4.7: RC 0.9: D 2.* Refers to A. N. Aeryns, E. R. Cary, L. W. Clark, H. P. Hammond, M. F. Larson, T. R. Lawson, W. W. Rousseau, S. Shaw.

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(7) GOODRICH, CHAUNCEY MARSH, Walkerville, Ont., Canada. (Age 54. Born Burlington, Vt.) Registered Prof. Engr. of Ontario. Registered Civ. and Mech. Engr., State

of Michigan.—1898 A. M., Harvard Univ. 1896 A. B., 1901 B. S. in C. E., and 1903 (about) C. E., Univ. of Vermont. *TT 4: P 4.*—1917 to 1919 Capt. and Major of Engrs., U. S. Army; being Consultant and Officer-in-Chg., Cancellation and Design Divs., Gen. Engr. Depot, Officer-in-Chg., Tech. Eng. Design and Procurement Div.; Head of Board of Contract Review; Contr. Officer for Div. and for Board in Engr. Troops and Director-Gen., Military Rys.; Chairman, Board on Pontoon Equipage; Consultant, gas plant, Bureau of Mines, etc. *TT 1.5: P 1.5: RC 1.5: D 1.5.*—1901 to date (except while with Army) with The Canadian Bridge Co., Ltd., Walkerville, Ont., until 1917 as Draftsman to Designing Engr., in charge of design, erection and selling, structural steelwork, and since 1919 Chf. Engr.; also occasional consulting work for Cons. Engrs., etc. *TT 24.5: SP 1.5: P 23: RC 23: D 23.*—*TT 30: SP 1.5: P 28.5: RC 24.5: D 24.5.* Refers to J. H. Edwards, O. E. Hovey, C. G. E. Larsson, F. C. McMath, W. Pope, G. F. Porter, C. S. Sheldon.

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(1) GRILL, GEORGE MATTHIAS, 2040 Seventh Ave., New York City. (Age 29. Born Lockenhaus, Burgenland, Austria.) Student, Coll. of Science and Arts, St. Johns Univ., Collegeville, Minn. (1921 to 1922), Coll. of Sciences and Arts, Johns Hopkins Univ. (½ year, 1923), and Extension Div., Columbia and Wisconsin Univs. (1928).—1922 to 1923 Architectural Woodwork Draftsman, M. L. Himmel & Sons, Baltimore, Md. *TT 0.3: SP 0.3.* 1923 to 1926 Soldier-Draftsman, Air Service, U. S. Army, Aberdeen, Md., and 16th Infantry, Ft. Wadsworth, N. Y. *TT 1.5: SP 1.5: D 0.2.*—1926 to 1928 Topographical Draftsman, Dept. of Water-Supply, Gas and Electricity, New York City. *TT 1: SP 1: D 0.5.*—1928 Senior Structural Draftsman, Picatinny Arsenal, Dover, N. J. *TT 0.4: SP 0.4: D 0.2.*—Dec. 1928 to Feb. 1929 Structural Detailer, Wilputte Corporation, New York City. *TT 0.2: SP 0.2.*—Feb. 1929 to date Structural Draftsman and Designer, and Checker in charge of draftsmen, Elec. Light & Power Co. (N. Y. E.). *TT 1: P 1: D 0.6.*—*TT 4.4: SP 3.4: P 1: D 2.* Refers to P. P. Farley, J. Goodman, H. B. Machen, F. B. Nelson, A. V. Sheridan.

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(6) HAINES, TRUMAN KNAUER, 304 Turnpike Ave., Clearfield, Pa. (Age 22. Born St. Peters, Pa.) 1929 B. S. in C. E., Pa. State Coll. *TT 4: P 4.*—June 1929 to date Draftsman and Inspector in field, Pennsylvania Dept. of Highways. *TT 0.3: SP 0.3.*—*TT 4.3: SP 0.3: P 4.* Refers to S. W. Jackson, E. D. Walker.

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(12) HAMMOND, ROSS BASSETT, 1311 Public Service Bldg., Portland, Ore. (Age 40. Born Pittsburgh, Pa.) 1909 diploma in Civ. Eng., Carnegie Inst. Tech.—Sept. 1909 to Dec. 1910 Transitman and Bldg. Inspector. *TT 0.6: SP 0.6.*—Dec. 1910 to Dec. 1919 with H. G. Christman Co. of Detroit, Mich., as Constr. Supt., Engr. and Estimator, Branch Mgr.'s office, Hamilton, Ont., supervising construction, design, redesign and construction of buildings (\$100 000 to \$750 000, reinforced concrete, fireproof, etc.), including Heins Bazaar Store, Ford Shipbuilding Plant and Fiske's Body Paint Shop, in Detroit, Niagara Paper Co. Bldg., Niagara Falls, N. Y., The Wm. Wrigley, Jr., factory, Toronto, Ont., etc. *TT 9: P 9: RC 5: D 5.*—Dec. 1919 to Sept. 1921 miscellaneous work. *TT 1.7: P 1.7: RC 1.7: D 1.7.*—Sept. 1921 to date Pres. and Gen. Mgr., Ross B. Hammond, Inc., on construction of fireproof buildings, including bank, schools, office buildings, theatres, etc. (\$100 000 to \$2 000 000, some named in application), many involving supervision of redesign. *TT 8.4: P 8.4: RC 8.4: D 8.4.*—*TT 19.7: SP 0.6: P 19.1: RC 15.1: D 15.1.* Refers to T. W. Baker, W. E. Buell, Jr., L. Griswold, L. D. Howell, C. J. McGonigle, J. H. Polhemus, C. W. Raynor.

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(12) HITCHINGS, EBEN GODFREY, 7638 Winona Ave., Seattle, Wash. (Age 38. Born Chicago, Ill.) 1926 B. S. in C. E., Univ. of Wash. *TT 4: P 4.*—Summer 1920 Timekeeper, Warrack Constr. Co., Ketchikan, Alaska, also acting as Draftsman, Office Mgr. and Asst. to Constr. Foreman.—June to July 1921 Topographer, Long-Bell Lumber Co., Vader, Wash., in charge of party. *TT 0.1: P 0.1.*—Nov. 1921 to March 1922 Draftsman, Puget Sound Power & Light Co., Seattle, Wash., and Div. of Constr., Dept. of Hulls, Navy Yard, Puget Sound, Wash. *TT 0.2: SP 0.2.*—March to June 1922 Draftsman, Utilities Officer, Camp Lewis, Wash., also acting as Surveyor and Asst. to Supt. of Utilities. *TT 0.1: SP 0.1.*—July–Oct. 1922 Surveyor in charge of party, U. S. Veterans' Bureau, American Lake, Wash., and (2 weeks) with Associated Oil Co., Seattle. *TT 0.3: P 0.3.*—Oct. to Nov. 1922 City Engr., Port Townsend, Wash. *TT 0.1: P 0.1: RC 0.1.*—Nov. 1922 and March 1923–April 1926 Draftsman, 1 week with Joseph M. Clapp, Seattle, and 3½ years with State Highway Dept., Olympia, Wash., drawing plans, etc., and preparing specifications. *TT 1.6: SP 1.6.*—May 1926 to date Senior Draftsman with King County Engr., Seattle, designing minor structures, approving proposed plats, office locations of highways, assessing local improvements. *TT 3.2:*

SP 0.5: P 2.7: RC 1.5: D 0.5.—TT 9.6: SP 2.4: P 7.2: RC 1.6: D 0.5. Refers to T. R. Beeman, I. L. Collier, D. H. Evans, G. E. Hawthorn, T. D. Hunt, K. M. MacDuffee, C. E. Magnusson, C. C. More.

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(1) HOTZ, ARTHUR RANDOLPH, 321 Windsor Road, Wood Ridge, N. J. (Age 37. Born Brooklyn, N. Y.) 1915 C. E., Pol. Inst. of Brooklyn. TT 4: P 4.—1915 to 1916 Jun. Engr. with State of New York, on surveying and supervision of construction. TT 1: P 1.—1916 to 1917 Structural Engr., Irving Iron Works, Long Island City, N. Y., detailing and designing structural steel. TT 0.7: SP 0.2: P 0.5: D 0.5.—1917 to 1918 Sales Engr. and Concrete Designer, Gen. Fireproofing Co., Youngstown, Ohio, designing and detailing concrete and compiling cost data. TT 0.5: SP 0.5: D 0.5.—1918 to 1919 with U. S. Army, as Meteorologist, A. E. F. in France, on compilation and observation for aviation, long range firing and gas squadron scientific work. TT 0.3: SP 0.3: P 0.5: RC 0.5.—1919 to 1920 Concrete Designing Engr., Westinghouse, Church, Kerr & Co., New York City, designing and detailing concrete. TT 1: P 1: D 1.—1920 to date Sales Engr. and Concrete Designer, The Fireproof Products Co., New York City, designing and detailing concrete, also steel sales work. TT 6.5: SP 2.5: P 4: RC 3: D 6.—TT 14.5: SP 3.5: P 11: RC 3.5: D 8. Refers to A. H. Bromley, H. S. Harding, C. W. Haefner, C. J. Hartenstine, F. F. Trierweller.

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(11) JEFFERS, PAUL EELLS, 816 West Fifth St., Los Angeles, Cal. (Age 40. Born Los Angeles, Cal.) 1913 A. B., Leland Stanford, Jr., Univ. TT 4: P 4.—1913 to 1916 with Mayberry & Parker, Los Angeles, Cal., on structural design on buildings and bridges. TT 2: SP 1: P 1: RC 1: D 2.—1916 to 1917 with Dodd & Richards, on structural design of Dyas Department Store, Coulter Dry Goods Store and Criterion Theatre. TT 1: P 1: RC 1: D 1.—1917 to date in private practice; prepared plans and specifications, checked shop details, supervised inspection, designed and superintended structural parts of Pacific Mutual and Subway Terminal Bldgs., Biltmore Hotel Addition, Temple B'nai Brith, etc. TT 12: P 12: RC 12: D 12.—TT 19: SP 1: P 18: RC 14: D 15. Refers to E. R. Bowen, O. G. Bowen, R. P. Miller, E. M. Scofield, O. A. Stone.

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(11) JEWELL, HOWARD WILLIAM, 3443 Eighth Ave., Los Angeles, Cal. (Age 33. Born Goodland, Kans.) 1916 graduated, Finlay Eng. Coll., Kansas City, Mo.—Student in Civ. Eng., Iowa State Coll. (March to Nov. 1919) and Univ. of Kans. (Sept. 1921 to June 1922). TT 1: P 1.—May 1916 to Aug. 1919 Asst. to Supt. on field and office work, and Dec. 1919 to Aug. 1921 Foreman on field construction, engineering and estimating, Gray Paving & Material Co., Kansas City. TT 2.4: SP 0.7: P 1.7: RC 1.7.—Sept. 1917 to Feb. 1919 Lieut. in charge of communication, U. S. Army, A. E. F., 35th Div. TT 1.5: P 1.5: RC 1.5.—July 1922 to Feb. 1926 Engr., Pacific Telephone & Telegraph Co., Los Angeles, Cal., on underground construction, plan, survey, study and design on Pacific Coast, Los Angeles and San Francisco. TT 3.2: SP 0.5: P 2.7: RC 2.7: D 2.7.—March 1926 to date Engr. (private practice) on design of underground structures; development and research work in conjunction with manufacturers; development of structure design adopted by American Telephone & Telegraph Co., etc. TT 3.8: P 3.8: RC 3.8: D 3.8.—TT 11.9: SP 1.2: P 10.7: RC 9.7: D 6.5. Refers to M. Butler, M. C. Halsey, R. Linton, E. L. Phillips, H. H. Winter.

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(6) JOHNSTON, STERLING, 1225 Oliver Bldg., Pittsburgh, Pa. (Age 51. Born Highland, Kans.) Jan. 1902 to Oct. 1903 Draftsman until Jan. 1903 with Carnegie Steel Co., detailing structural steel for mill and office buildings, then with Lackawanna Steel Co., detailing mill buildings. TT 0.9: SP 0.9.—Feb. 1904 to Oct. 1918 with Canadian Bridge Co., Ltd., 2 years as Draftsman, 4 years Chf. Draftsman, and 8½ years Asst. Mgr. of Constr. in responsible charge of design of erection equipment for many bridges; also designed shops at Montreal, Que., for fabrication of new Quebec Bridge. TT 13.6: SP 1: P 12.6: RC 12.6: D 8.6.—March 1920 to July 1921 Structural Engr., Amalgamated Sugar Co., Ogden, Utah, in responsible charge of design of structural features for seven beet-sugar plants. TT 1.3: P 1.3: RC 1.3: D 1.3.—May 1922 to date Structural Engr., until Dec. 1927 with Kansas City Bridge Co., in responsible charge of design and construction of highway and railway bridges, then with McClintic Marshall Co., on design of travelers and equipment for erecting New Hudson River Bridge towers, and at present on cable design for suspension bridges. TT 7.8: P 7.8: RC 7.8: D 7.8.—TT 23.6: SP 1.9: P 21.7: RC 21.7: D 17.7. Refers to D. S. Gendell, Jr., J. Jones, F. C. McMath, L. S. Moisseiff, R. A. Pendergrass, H. P. Treadway.



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(9) **KECKLER, JAMES PUMPHREY**, Germantown, Ohio. (Age 40. Born Ada, Ohio.) 1906-1909 student, Ohio Northern Univ. TT 1.5: P 1.5.—1910 to 1913 Rodman and Draftsman, City of Columbus, Ohio. TT 1.5: SP 1.5.—1913 to 1915 Engr. and Inspector, Big Four R. R. Co. TT 0.5: SP 0.5.—1916 to 1918 Field Engr., Domestic Bldg. Co., Dayton, Ohio, in charge of street, sewer and factory-building construction. TT 3.2: P 3.2: RC 3.—1918 to 1919 Asst. Engr., Miami Conservancy Dist., on river improvements. TT 1.1: P 1.1: RC 1.—1919 to date Bridge Engr., Montgomery Co., Ohio, in charge of design, construction and repair of bridges (total over \$2 500 000). TT 10: P 10: RC 10: D 10.—TT 17.8: SP 2: P 15.8: RC 14: D 10. Refers to K. B. Allen, G. F. Baker, A. E. Bauer, C. S. Bennett, P. S. Bookwalter, C. H. Eiffert.

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(13) **KINGSBURY, WILLIAM STEPHEN, Jr.**, Roosevelt Hotel, Jones and Eddy Sts., San Francisco, Cal. (Age 26. Born Los Angeles, Cal.) 1925 B. S., Cal. Inst. Tech. TT 4: P 4.—Aug. 1923 to Sept. 1924 Engr. in office of State Surveyor General of California, at Sacramento, office and field work on surveys, instrument work, calculation, drafting, land appraisal, etc. TT 0.8: SP 0.8: P 0.5: RC 0.8.—June 1925 to Dec. 1927 with Bridge Dept., California Div. of Highways, until Dec. 1925 as Asst. Res. Engr. on reinforced concrete bridges on Truckee River, two arch and three girder structures, instrument work, inspection, design of falsework and arch centering, etc., then Res. Engr. on reinforced concrete bridges, overhead crossings and underpasses, some paving and grading, in charge in field, also on estimates, reports, designing. TT 2: SP 0.5: P 1.5: RC 0.5: D 0.5.—Dec. 1927-Nov. 1929 with State of California, until Aug. 1929 as Chf. Deputy State Surveyor General (from Feb. to June acting as Surveyor General), and after Aug. 1929 Deputy Chf., Div. of State Lands, Dept. of Finance, in charge of surveys, sales, leases and permits and of operations and construction work by oil permittees and lessees on tide lands in Elwood, Goleta, Carpinteria and Sealiff fields on Southern California coast, approving plans for steel and timber wharves, wood, steel and reinforced concrete protective works for wells in the sea, also in charge for State on rights-of-way, easements and licenses for roads, pipe lines and power lines. TT 2: P 2: RC 2: D 0.8.—Dec. 1929 to date Engr., Sales Dept., Soule Steel Co., San Francisco, training for engineering and sales work on reinforcing bars, steel truss joists, steel forms, etc. TT 0.1: SP 0.1.—TT 3.9: SP 0.9: P 3: RC 2.8: D 1.3. Refers to C. E. Andrew, R. R. Martel, F. W. Panhorst, C. S. Pope, L. Pope, 3d, E. L. Soule, T. E. Stanton, Jr., F. Thomas, O. von Geldern.

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(1) **KOFMAN, MENASHAH**, 4713 Thirty-Ninth Ave., Long Island City, N. Y. (Age 38. Born in Russia.) 1919 B. S. C. E., Univ. of Mich. TT 4: P 4.—1919 to 1920 Structural Draftsman, Burrell Eng. Co., Chicago, Ill., structural detailing on reinforced concrete grain elevators. TT 0.4: SP 0.4.—1920 to 1923 Reinforced Concrete Designer, until 1921 with Leonard Constr. Co., Chicago, on warehouses, schools, theatres, etc., then with American Concrete Steel Co., Newark, N. J., on cold-storage warehouses, reinforced concrete stair construction, etc., estimating and ordering construction materials. TT 2.7: P 2.7: D 2.7.—1923 to 1924 Reinforced Concrete Designer and Checker, Union Miniere du Haut Katanga, New York City, designing and checking copper-plant structures, retaining walls, water tunnels, heavy foundation for solution tanks. TT 1.1: P 1.1: D 1.1.—1924 to 1926 Field Engr. and Supt. of Constr., Sold-Banck, Tel. Univ. Palestine, in full charge of construction of hotels, apartment houses and industrial buildings. TT 2: P 2: RC 2.—1926 to 1927 Head, Constr. Dept., Textile Factory (Krasni Oktyaber), constructed dyehouse, machinery building, river-bank reinforcement and macadam road (2 miles long). TT 0.7: P 0.7: RC 0.7.—1927 Structural Designer, Sargastral Saratof, Russia, on design of warehouses and water reservoirs. TT 0.3: P 0.3: D 0.3.—1927 to 1928 Structural Engr., M. T. Z. R. Metal Trust, Moscow, Russia, approving or discarding plans for factory buildings. TT 0.5: P 0.5: RC 0.5.—1928 to date with Elec. Bond & Share Co., New York City, on hydraulic design and layout of hydro-electric developments, designing and making economic curves for penstocks, open channels, water tunnels, intakes, dams, turbine foundation, retaining walls. TT 1.1: P 1.1: D 1.1.—TT 12.8: SP 0.4: P 12.4: RC 3.2: D 5.2. Refers to W. E. Brown, P. L. Hornby, H. Miller, H. H. Steinhäuser, B. E. Torpen.

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(7) **LANDWEHR, WALDEMAR JOHN**, State Journal Bldg., Madison, Wis. (Age 26. Born Sheboygan, Wis.) 1925 B. S. in Civ. Eng., Univ. of Wis. TT 4: P 4.—June 1925 to date Engr. with Daniel W. Mead & Charles V. Seastone, Cons. Engrs., being Instrumentman on water-power surveys, drawing topographical maps, concrete and steel design, plans and estimates of cost of hydro and steam-power plants, and Asst. to Res. Engr. on steam-



generating plant construction. TT 4: SP 0.5: P 3.5: RC 0.4: D 0.2.—TT 8: SP 0.5: P 7.5: RC 0.4: D 0.2. Refers to E. F. Gould, D. W. Mead, H. W. Mead, C. V. Seastone, C. N. Ward.

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(14) LITTLEFIELD, WILLIAM MORRIS, 23 Federal Bldg., Topeka, Kans. (Age 22. Born Sipe Springs, Tex.) 1929 B. S. in Civ. Eng., Agri. and Mech. Coll. of Tex. TT 4: P 4.—June 1929 to date Jun. Engr., U. S. Geological Survey, Texas and (since Aug. 1929) Kansas Dists., at present Hydrographer. TT 0.5: P 0.5.—TT 4.5: P 4.5. Refers to C. E. Ellsworth, J. T. L. McNew, T. A. Munson, J. J. Richey, C. E. Sandstedt, J. B. Spiegel.

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(11) McCLEERY, MERLE GRANT, 615 Washington St., Denver, Colo. (Age 23. Born Denver, Colo.) 1929 B. S., Colo. Agri. Coll. TT 4: P 4.—June 1929 to date Jun. Engr., U. S. Bureau of Reclamation, on investigation and design of technical studies of Boulder Canyon Dam. TT 0.5: P 0.5: D 0.5.—TT 4.5: P 4.5: D 0.5. Refers to J. J. Hammond, I. E. Houk, J. L. Savage.

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(4) MAINWARING, ALBERT HAROLD, 354 Delmar St., Roxborough, Philadelphia, Pa. (Age 38. Born Chattanooga, Tenn.) 1916 B. S. in Civ. Eng., Pa. State Coll. TT 4: P 4.—June 1916 to May 1917 Rodman, Constr. Dept., Pennsylvania R. R. Co., on surveys, location, construction on grade-crossing bridges and in charge of construction of retaining walls at Assunpink Creek, Trenton, N. J. TT 0.5: SP 0.5.—May to July 1917 Draftsman, David Luptons Sons, Philadelphia, Pa., detailing steel sash-partitions, etc. TT 0.1: SP 0.1.—July to Dec. 1917 Draftsman, Bridge Div., Reading Co., Philadelphia, plans and details on bridges and culverts. TT 0.2: SP 0.2.—Dec. 1917 to June 1920 Field Party Chf. and Field Engr., Railroad Div., American International Shipbuilding Corporation, Hog Island, Pa., on railroad layouts, typographic, hydrographic, triangulation and evaluation surveys. TT 2.5: P 2.5: RC 2.5.—June 1920 to Aug. 1922 in business not strictly engineering.—Aug. 1922 to date with City of Philadelphia, until Feb. 1925 as Superv. Engr., Bureau of Street Cleaning, on study and planning of garbage and waste removals, street-cleaning methods, design and detail of wharves, bridges and buildings, and since Feb. 1925 Asst. Engr., Bureau of Highways, in charge of Div. of Bridges and Sewers, since Aug. 1922 also supervising Highway Bureau Drafting Room. TT 7.1: SP 0.2: P 6.9: RC 5.3: D 6.—TT 14.4: SP 1: P 13.4: RC 7.8: D 6. Refers to P. S. Baker, M. Barofsky, J. F. Cullen, J. E. Gill, R. J. Lawrence, C. A. Mathews, C. E. Myers, S. H. Noyes, F. G. Schworm.

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(14) MARSHALL, JAMES DAVIES, 3539 Gillham Road, Kansas City, Mo. (Age 25. Born Fremont, Nebr.) 1925 B. S. in Civ. Eng., Univ. of Nebr. TT 4: P 4.—June 1925 to Nov. 1926 Detailer and Checker, Gary (Ind.) Plant, American Bridge Co., detailing, checking and field checking, office and mill building and bridge work. TT 1.5: P 1.5.—Nov. 1926 to Oct. 1928 Checker and Squad Boss, Harrington, Howard and Ash, Kansas City, Mo., checking design calculations and design drawings, supervising making and checking of drawings and calculations. TT 1.9: P 1.9: RC 1.—Oct. 1928 to date Squad Boss, Ash, Howard, Needles & Tammen, Kansas City, Mo., supervising making and checking of design drawings and checking of steel fabricator's drawings. TT 1.2: P 1.2: RC 1.2.—TT 3.6: P 3.6: RC 2.2. Refers to L. R. Ash, F. W. Dencer, C. M. Greer, H. J. Kesner, C. E. Mickey, H. C. Tammen.

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(4) MASON, JOHN LESLIE, 328 South Duke St., York, Pa. (Age 32. Born Mt. Morris, Ill.) 1925 B. S., Coll. of Civ. Eng., Univ. of Cal. TT 4: P 4.—Sept. 1917 to Sept. 1918 and Jan. to Aug. 1919 with U. S. Army, as Instructor in Airplane Motors, Air Service, Rockwell Field, San Diego, Cal., and (after Jan. 1919) Shop Supt. and Motor Instructor, Motor Transport Corps, Camp Pike, Ark. TT 1.3: SP 0.4: P 0.9.—April 1920 to June 1921 Journeyman Machinist, Moore Shipyard, Oakland, Cal. TT 0.6: SP 0.6.—Aug. 1921 to May 1925 student.—June 1925 to Oct. 1929 Salesman, Eng. Designer and Supt. of installation of water-works and sewage-treatment plant equipment, Water Works Supply Co., San Francisco, Cal.; work included design of equipment, advising on design of sewage-treatment plants and design of water filtration plants. TT 4.3: P 4.3: RC 2.8.—Oct. 1929 to date Sewage Research Engr., Hardinge Co., York, Pa., designing sewage-treatment plant machinery, clarifier, digestors, etc., conducting research work on plant operation and construction, reports, technical articles, etc. TT 0.2: P 0.2: RC 0.2.—TT 10.4: SP 1: P 9.4: RC 3. Refers to C. G. Gillespie, C. G. Hyde, E. A. Ingham, A. Kempkey, C. C. Kennedy, E. N. Prouty.

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 (7) MEYERS, J STUART, 207 Eng. Bldg., Iowa City, Iowa. (Age 23. Born Burkmore, S. Dak.) 1927 B. E. and 1928 M. Sc., State Univ. of Iowa. TT 4: P 4.—June 1928 to Oct. 1929 Surveyman and Jun. Engr., U. S. Engr. Office, Rock Island, Ill., collecting and preparing data for reports on rivers in district. TT 1.4: P 1.4.—Oct. 1929 to date Graduate Asst. in Hydraulics, Eng. Coll., State Univ. of Iowa.—TT 5.4: P 5.4. Refers to C. L. Hall, R. B. Kittredge, F. A. Nagler, E. L. Waterman, C. C. Williams, S. M. Woodward, D. L. Yarnell.

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(14) MILLER, JOSEPH JAMES, Hill City, Kans. (Age 31. Born Allentown, Pa.) Licensed Engr. and Surveyor, State of North Carolina.—Correspondence Course in Structural Eng., Univ. of Wis.—July 1917 to April 1918 Rodman, Central R. R. of N. J. TT 0.4: SP 0.4.—May 1918 to Jan. 1919 Instrumentman, Johns-Manville Co., Philadelphia, Pa., establishing lines and grade for pipe line installation for heating system for townsite at May's Landing, N. J. TT 0.3: SP 0.3.—Feb. to Sept. 1919 Party Chf., Lehigh Navigation Elec. Co., Allentown, Pa., on transmission-line location, levels, surveys, plotting profiles, etc. TT 0.3: SP 0.3.—Oct. 1919 to Nov. 1920 Res. Engr., Cuyamel Fruit Co., Puerto Cortes, Spanish Honduras, sectionizing jungle land, installing irrigation canals, railroad and tramway location and construction, in complete charge of three survey camps. TT 1.2: P 1.2: RC 1.2.—Dec. 1920 to Aug. 1922 Eng. Contr., principally on work for Vaccarro Bros. Fruit Co., LaCelba, Spanish Honduras. TT 1.8: P 1.8: RC 1.8.—Sept. 1922 to Jan. 1924 and Aug. 1924 to March 1925 with North Carolina State Highway Comm., until Jan. 1924 as Res. Engr., on location and construction, lines, grades, cross-sections, tests, estimates, etc., and after Aug. 1924 on borings for bridge sites, footing design and drafting. TT 2: P 2: RC 1.3.—Jan. to Aug. 1924 on grading and culvert construction for Alabama Concrete Products Co. on State Project No. 342 in North Carolina. TT 0.6: SP 0.6.—April to June 1925 Asst. Res. Engr., Carolina Eng. Co., Charlotte, N. C., city paving at Forest City, N. C., construction of small dam for city water supply, installing sewer lines and septic tanks, assessments, estimates, etc. TT 0.3: P 0.3.—July 1925 to July 1926 Engr. and Surveyor on surveys, sub-divisions, maps, road and bridge location and estimates for Rutherford County, N. C. TT 1.1: P 1.1: RC 1.1.—Aug. 1926 to July 1927 Senior Inspector, Pennsylvania Dept. of Highways, on lines, grades, culvert location, tests of materials, reports, estimates, etc. TT 1: P 1: RC 1.—Aug. 1927 to Aug. 1928 Computer, Atchison, Topeka and Santa Fe R. R., on valuation work. TT 1.1: P 1.1.—Sept. 1928 to date Res. Engr., Kansas State Highway Comm., on road and bridge construction, lines, grades, cross-sections, tests, reports, estimates, etc.; at present constructing a 12-span reinforced concrete girder bridge. TT 1.3: P 1.3: RC 1.3.—TT 11.4: SP 1.3: P 10.1: RC 7.7. Refers to G. H. Bishop, C. C. Kerns, P. H. Myers, I. Rogers, J. J. Sorenson, D. Ulrich.

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(6) MITCHELL, THOMAS JEFFERSON, 807 Empire Bldg., Pittsburgh, Pa. (Age 43. Born Johnstown, Pa.) Prior to 1906 Chainman, Rodman and Instrumentman, Cambria Steel Co., Franklin (Pa.) Plant, assisting on laying out pipe line, mill building and dam work. TT 1.5: SP 1.5.—1906 to 1911 Supt., Car Constr. Dept., Pressed Steel Car Co., Allegheny (Pa.) Plant, directed work of assembling railway cars and equipment, including punching, fitting, riveting and laying out parts. TT 5: P 5: RC 4: D 1.—1912-1918 with Pittsburgh (Pa.) Testing Laboratory, in charge of inspectors on construction of locomotives, buildings, etc., including inspection and testing of air-brake equipment, structural steel, axles, car-wheels, etc. TT 6: P 6: RC 6.—1919 to 1925 Vice-Pres. and Gen. Mgr., Standard Inspection Co., Pittsburgh, in direct charge of operations, business, inspection and testing of structural steel, road-building and bridge materials, etc. TT 6: P 6.—1925 to 1927 Engr. of Steel Inspection, Dept. of Public Works, Allegheny County, Pa., in charge of inspection, mill, shop and field inspection of materials for bridge projects. TT 2: P 2: RC 2.—1927 to date with Crescent Brick Co., Pittsburgh, at present as Vice-Pres. assists in sales and operation of three plants manufacturing vitrified-paving, mill, ladle and open-hearth brick. TT 2.9: P 2.9: RC 2.9.—TT 23.4: SP 1.5: P 21.9: RC 14.9: D 1. Refers to S. Eckels, J. Farris, P. J. Freeman, G. F. Schlesinger, N. S. Sprague, T. J. Wilkerson.

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(5) MOORE, WALTER FRANCIS, Oxford, Md. (Age 36. Born Oxford, Md.) 1914 B. S., Washington Coll. TT 4: P 4.—Oct. 1914-Oct. 1915 Rodman, Maryland State Roads Comm., on surveys. TT 0.5: SP 0.5.—March 1916 to March 1924 with Pennsylvania R. R. (except Oct. 1917 to Feb. 1919 2nd Lieut., Reserve Military Aviator, U. S. Army), as Rodman and Transitman, on plans and estimates, design of bridge abutments and trestles and design and construction of yard layouts and bridges and (after Feb. 1919) Asst. Supervisor, supervising track and structure maintenance, construction of track layouts, distribution and requisition

of material, plans and estimates. *TT 6.2: SP 0.6: P 5.6: RC 3.1: D 2.2.*—March 1924–June 1927 Sales Engr., Headley Good Roads Co., Philadelphia, Pa., promotion of sales and direction of installation of emulsified asphalt for railroad grade crossings and resurfacing highways. *TT 3.3: P 3.3: RC 3.3.*—Sept. 1927 to date Asst. Engr., Kastenhuber and Anderson, Easton, Md., being Inspector and Res. Engr. of water-works system, Oxford, Md., general engineering and surveying. *TT 2.3: P 2.3: RC 2: D 0.3.*—*TT 16.3: SP 1.1: P 15.2: RC 8.4: D 2.5.* Refers to F. D. Davis, R. C. Hollyday, E. G. Kastenhuber, Jr., F. X. Kern, H. D. Stowe.

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(13) MORRIS, ROBERT FARLEY, 630 Palmetto Ave., San Francisco, Cal. (Age 46. Born Perrydale, Ore.) 1910 A. B. in Civ. Eng., Stanford Univ. *TT 4: P 4.*—May 1910 to Oct. 1916 and Jan. 1919 to June 1925 with Howard S. Williams, Gen. Contr., San Francisco, Cal. 2½ years as Mechanic and Foreman, 4 years Estimator and Bldg. Supt., and 6½ years Chf. Estimator and Gen. Supt. in charge of construction. *TT 9.7: SP 1.2: P 8.5: RC 8.5: D 1.*—Oct. 1916 to Jan. 1919 with C. J. Guth, Sacramento, Cal., as Gen. Supt. in charge of design and construction of buildings. *TT 2.3: P 2.3: RC 2.3: D 2.3.*—June 1925 to date with J. A. Bryant, Gen. Contr., San Francisco, as Engr. in charge of all office activities, also Gen. Bldg. Supt. *TT 4.6: P 4.6: RC 4.6.*—*TT 20.6: SP 1.2: P 19.4: RC 15.4: D 3.3.* Refers to T. F. Chace, C. B. Hopkins, H. A. Larsen, J. F. Minihan, V. S. Persons, E. L. Soule.

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(3) MUDDERMAN, JOHN ANTHONY, 21 Shepherd Place, Utica, N. Y. (Age 30. Born Utica, N. Y.) 1½ years student, Chicago Technical School.—1918 to 1920 on large development, until 1919 as Eng. Asst. with Geo. Weigand, staking street lines, profiles and cross-sections, establishing sewer and pavement grades, then (private work) staking lots. *TT 1: SP 1.* 1920 to 1923 Engr., City Planning Comm., Utica, N. Y., established coordinate system for maps of City, investigated and made designs for buildings and streets on two large canal land allotments (\$300 000). *TT 3: P 3: RC 3: D 2.*—1923 to 1924 Asst. City Engr., Utica, in complete charge of surveys, design and construction of large reinforced culvert (\$187 000). *TT 1: P 1: RC 1: D 0.4.*—1924 to 1928 member of firm, Jenkins & Mudderman, Gen. Contrs., in complete charge of field operations, constructed four large buildings, one a municipal building (\$125 000) for Village of Ilion, a concrete warehouse and storage building, a fire station, etc. *TT 4: P 4: RC 4: D 2.*—1928 to date Asst. City Engr., Utica, on design and construction of buildings, a municipal garage (\$150 000) and hangar at Air Port (\$45 000); also made alternate plan for City Hall (estimated cost \$1 500 000) and designed two swimming pools and bath houses. *TT 2: P 2: RC 2: D 2.*—*TT 11: SP 1: P 10: RC 10: D 6.4.* Refers to H. Bartholomew, R. S. Cookinham, G. C. Diehl, C. Lewis, Jr., P. Schultze.

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(11) NEUFFER, HERMAN CHRISTOPHER, Box 445, Albuquerque, N. Mex. (Age 38. Born Preston, Idaho. 1915 B. S. in C. E., Univ. of Idaho. *TT 4: P 4.*—June 1915 to May 1917 with Franklin County, Idaho, until Jan. 1917 as Asst. to County Engr., being Chf. of Party, then County Engr. on surveys, irrigation and highway locations, layouts, and estimates. *TT 1.9: P 1.9.*—May 1917 to Jan. 1918 and July 1919 to May 1922 Asst. Engr., U. S. Indian Irrigation Service, Dist. 5, Albuquerque, N. Mex., on surveys, investigations, reports and designs, being in charge of construction and design of irrigation structures, canals, etc. *TT 3.3: P 3.3: RC 1: D 0.7.*—Jan. 1918 to Feb. 1919 with U. S. Army.—Feb. to July 1919 Chf. of Party, War Dept., Camp Knox, Ky., on location and construction of 7 miles of asphalt macadam highway. *TT 0.4: P 0.4.*—May 1922 to May 1923 Chf. Engr., Palo Verde Joint Dist., Palo Verde Drainage Dist. and Palo Verde Mutual Water Co., Blythe, Cal., on location, plans, specifications and construction of levee replacement (4 miles), channel excavation (6 miles) Colorado River (approx. \$400 000), location, designs, plans, specifications for construction of drain (approx. \$200 000) and on operation and maintenance of irrigation system and canal reconstruction (approx. \$400 000). *TT 1: P 1: RC 1.*—May to Sept. 1923 with M. H. Whittier Co. of Los Angeles investigating and reporting on development of property in Shasta County, Cal., making study of topography, soil, ground water and water supply. *TT 0.3: P 0.3: RC 0.3.*—Sept. 1923 to Feb. 1924 in private practice at El Monte, Cal., on subdivision of small irrigation development. *TT 0.4: P 0.4.*—Feb. 1924 to Aug. 1929 with U. S. Indian Irrigation Service, until Aug. 1924 as Asst. Engr. at Florence, Ariz., on design of canal structures and (2 months) in charge of designing and building canal and structures of main canal, San Carlos project (100 000 acres), then Designing Engr., Coolidge Dam, being in charge of designs, including specifications for dam, materials and equipment, supervised surveys, layouts, etc. *TT 5.5: P 5.5: RC 5.5: D 4.3.*—Aug. 1929 to date Engr. representing Secy. of Interior and Commr. of Indian Affairs, Middle Rio Grande Conservancy Dist



(approx. 23 000 acres). *TT 0.4: P 0.4: RC 0.4.—TT 17.2: P 17.2: RC 8.2: D 5.* Refers to L. C. Hill, W. C. Langfitt, D. W. Murphy, F. A. Noetzli, W. M. Reed, F. W. Slattery, J. G. Tripp, A. J. Wiley.

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(15) NIXON, SAM AB, Santa Fe Bldg., Galveston, Tex. (Age 29. Born Calvert, Tex.) 1925 B. S. in C. E., and 1929 M. S. in C. E., Agri. and Mech. Coll. of Tex. *TT 4: P 4.—*Feb. to Oct. 1923 with Long-Bell Lumber Co., Shreveport, La., as Foreman of yards and Supt. of labor in loading, unloading and creosoting of timber products. *TT 0.3: SP 0.3: RC 0.3.—*Aug. to Sept. 1925 Instrumentman, Port Houston (Tex.) on railroad construction and maintenance. *TT 0.1: P 0.1.—*Sept. to Nov. 1925 Rodman, Nov. 1925 to Aug. 1926 Draftsman on map work with some design, and Aug. to Dec. 1926 Rodman and Instrumentman, Southern Pacific Lines. *TT 1.3: P 1.3: D 0.1.—*Dec. 1926 to June 1927 Asst. City Engr., Galveston, Tex., design and Engr. on construction. *TT 0.6: P 0.6: RC 0.6: D 0.6.—*Aug. 1927 to Oct. 1928 Draftsman and Computer, Gulf, Colorado & Santa Fe Ry. Co., on valuation. *TT 1.2: P 1.2.—*Oct. 1928 to June 1929 graduate student, Texas Agricultural and Mechanical Coll.—June 1929 to date Draftsman, Gulf, Colorado & Santa Fe Ry. Co., Galveston, at present in Chf. Engr.'s office. *TT 0.6: P 0.6.—TT 8.1: SP 0.3: P 7.8: RC 1: D 0.7.* Refers to F. E. Giesecke, K. E. Kirby, J. T. L. McNew, T. A. Munson, J. J. Richey, C. E. Sandstedt.

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(11) OKELL, OTTA CLARENCE, Jr., 319 West Wilson Ave, Glendale, Cal. (Age 30. Born Vibbard, Mo.) 1922 B. S. of C. E., Univ. of Mo. *TT 4: P 4.—*Nov. 1922 to March 1925 with Black & Veatch, Cons. Engrs., Kansas City, Mo., as Asst. and Res. Engr. on sewer, sewage-disposal and paving construction and making preliminary surveys. *TT 2.3: P 2.3: RC 1.—*March 1925 to date with Eng. Dept., Glendale, Cal., laying out, designing and supervising plans for city sewer system. *TT 4.8: P 4.8: RC 4.8: D 4.8.—TT 11.1: P 11.1: RC 5.8: D 4.8.* Refers to J. C. Albers, R. F. Brown, P. A. Diehl, E. A. Hardin, S. W. Henderson, J. F. Johannsen, A. P. Learned, G. G. McCaustland, C. D. Miller, R. B. Ray, F. M. Veatch, N. T. Veatch, Jr.

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(5) ORR, ERNEST IRVING, 901 D St. N. W., Washington, D. C. (Age 24. Born Dillon, Mont.) 1929 B. S. in Civ. Eng., Mont. State Coll. *TT 4: P 4.* Refers to E. L. Grant, C. A. Hoglund.

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(9) PEASE, WESLEY OLIVER, R. R. No. 1, Dayton, Ohio. (Age 41. Born Dayton, Ohio.) May 1909 to Nov. 1910 and Jan. 1911 to June 1915 Instrumentman, successively with J. A. Kauffman Co., on preliminary survey of electric railway, K. B. Allen Co., general surveying and City Eng. Dept., Dayton, Ohio, general municipal work. *TT 3: SP 3.—*June 1915 to Sept. 1919 Engr. in charge of design and construction of sewers for City of Dayton. *TT 4.1: P 4.1: D 4.1.—*Sept. 1919 to date, with Montgomery County until June 1922 on design and construction of state highways, and since June 1922 County Surveyor; supervised design on construction of 22 bridges (length 100 to 600 ft.), brick, asphalt and concrete paving (approx. 80 miles) and macadam (about 50 miles). *TT 10.3: P 10.3: RC 7.5: D 10.3.—TT 17.4: SP 3: P 14.4: RC 7.5: D 14.4.* Refers to K. B. Allen, G. F. Baker, A. E. Bauer, P. S. Bookwalter, F. J. Cellarius, C. H. Paul, C. D. Putnam.

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(4) PESSOLANO, ANTHONY FRANCIS, 32 Harrison Ave., Trenton, N. J. (Age 33. Born Philadelphia, Pa.) Student in Architectural Eng., Univ. of Pennsylvania (1917 to 1919) and in Civ. Eng., Rensselaer Polytechnic Inst. (1919 to 1921). *TT 2: P 2.—*Feb. to Oct. 1917 and summer 1919 Detailer on electric and gasoline locomotives, and summer 1920 Checker on steam locomotives, Baldwin Locomotive Works, Philadelphia, Pa. *TT 0.3: SP 0.3.—*Summer 1918 with Monks & Johnson, Philadelphia, as Structural Draftsman (Asst. to Supervisor of preliminary plans).—June 1921 to Aug. 1922 Structural Steel Detailer, Pittsburgh Bridge & Iron Works, Rochester, Pa., on mill and office buildings. *TT 0.6: SP 0.6.—*Aug. 1922 to Jan. 1923 Structural Draftsman, Grade 1, New York State Transit Comm., New York City, on design of subway structures, grade and earthwork computations. *TT 0.5: P 0.5: D 0.5.—*Jan. to April 1923 Structural Draftsman with Julian S. Simsohn, Philadelphia, on steel design and power-plant piping. *TT 0.2: P 0.2: D 0.2.—*April 1923 to Jan. 1924 Structural Steel Designer with Stone & Webster, Inc., Boston, Mass., on power plants and office buildings. *TT 0.7: P 0.7: D 0.7.—*Jan. 1924 to Feb. 1925 Steel Designer, until Sept. 1924 with The Foundation Co., New York City, on power plants and mill buildings, then with Gibbs & Hill, Inc., New York City, on power plants and substations. *TT 1.1: P 1.1: D 1.1.—*Feb. 1925 to Sept. 1926 Structural Steel Designer, Consolidated Gas Co., New York City, on power plants and office buildings. *TT 1.6: P 1.6: RC 1.6: D 1.6.—*Sept. 1926 to May 1929 Structural Draftsman, until April 1927 with David Lupton Sons Co., Philadelphia.



on steel-sash products, then with Div. of Bridges, New Jersey State Highway Dept., Trenton, on design and detail of reinforced concrete highway bridges. *TT 2.6: P 2.6: D 2.1.*—May 1929 to date Structural Steel Designer, Hardy S. Ferguson & Co., New York City, on industrial buildings. *TT 0.6: P 0.6: D 0.6.*—*TT 10.2: SP 0.9: P 9.3: RC 1.6: D 6.8.* Refers to J. J. Conrad, C. J. Folk, L. G. Frost, M. Goodkind, F. A. Heacock, F. H. Kinsey.

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(1) **PLA, GABRIEL**, Box 182, Marina Station, Mayaguez, Porto Rico. (Age 34. Born Caguas, Porto Rico.) 1921 C. E., Rens. Pol. Inst. *TT 4: P 4.*—Sept. 1921 to Aug. 1922 Jun. Asst. Engr., Grade 1, New York State Comm. of Highways, being Inspector of asphalt-macadam road. *TT 0.6: SP 0.6.*—Jan. 1924 to Jan. 1925 Res. Engr., Dept. of Interior of Porto Rico, in charge of Mayaguez, Anasco and Lajas water-works construction and Maricao's sewerage system. *TT 1: P 1: RC 1.*—Sept. 1922 to Oct. 1923 and Jan. 1925 to Jan. 1929 with Municipality of Arecibo, Porto Rico, as Asst. Engr. on inspection of water-works and hydro-electric power development, and (after Jan. 1925) City Engr., on design and construction of streets and highways, design of school buildings and in charge of construction of water-purification plant; also since Jan. 1929 (at times) Engr. on design and construction of railroads and highways for Central Cambalache (sugar factory); designed concrete building for tobacco factory and warehouse for Roses & Co.; supervised erection of steel building for Marques & Co. *TT 4.6: SP 0.6: P 4: RC 4.*—March 1929 to date on surveys and at present Contr. on construction of water-system and hydro-electric power house. *TT 0.4: P 0.4: RC 0.4.*—*TT 10.5: SP 1.1: P 9.4: RC 5.4.* Refers to E. Baez-Rodriguez, R. R. Casellas, M. R. Ferrer, M. Font, F. Fortuno-Selles, R. A. Gonzalez, R. J. F. Lucchetti, S. Quinones.

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(11) **POWERS, JULIAN WILSON**, 1722 West Madison St., Phoenix, Ariz. (Age 29. Born Phoenix, Ariz.) 1922 B. S., Univ. of Ariz. *TT 4: P 4.*—Feb. 1922 to Oct. 1923 with Maricopa County Highway Comm., as Draftsman, checking estimates, some concrete inspection, etc., and (after Jan. 1923) Engr. of Estimates. *TT 1.1: SP 0.4: P 0.7.*—Nov. 1923 to date with Arizona Highway Dept. as follows: Nov. 1923 to June 1924 Computer (Laboratory), on screen analysis of sand and gravel, fabricating and breaking briquettes, asphalt test, etc.; July 1924–June 1925 Laboratory Asst. on similar work; July–Dec. 1925 Asst. Testing Engr., conducting tests of sand, gravel, asphalt, cement, concrete cylinders, asphalt mixes and steel, and assisted on reports; Jan. 1926–Aug. 1927 Testing Engr., supervising and reporting tests; since Sept. 1927 Engr. of Materials, supervising materials, carrying on research and making recommendation for specifications based on tests. *TT 5.3: SP 0.8: P 4.5: RC 4.*—*TT 10.4: SP 1.2: P 9.2: RC 4.* Refers to J. DeArozena, R. A. Hoffman, B. A. McNelly, E. V. Miller, J. S. Mills.

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(13) **RAWHAUSER, JOHN GAMBELL**, P. O. Box 1621, Stanford University, Cal. (Age 30. Born Lone Tree, Iowa.) 1924 A. B., Leland Stanford, Jr., Univ. *TT 4: P 4.*—Nov. 1918 to Oct. 1919 Chainman and Rodman, R. R. Valuation Dept., Interstate Commerce Comm. *TT 0.5: SP 0.5.*—Sept. 1922 to Jan. 1923 Instrumentman and Chf. of Party, Diamond Match Co., on preliminary surveys and location of standard-gauge logging railroad. *TT 0.3: P 0.3.*—April 1925 to date with City of Stanford University, until June 1928 as Engr., on surveying and engineering, principally subdivision of residential property, building of roads and service mains, then Res. Engr. in charge of preliminary surveys, investigation of soils and bed rock and on construction of earth dam with concrete diaphragm (68 ft. high); March to Sept. 1927 also Asst. Engr., San Francisco Traffic Survey Comm., compiling statistics and locating and timing traffic signals. *TT 4.3: SP 0.3: P 4: RC 2.4.*—*TT 9.1: SP 0.8: P 8.3: RC 2.4.* Refers to G. A. M. Elliott, J. C. L. Fish, F. C. Herrmann, L. B. Reynolds, E. C. Thomas, H. C. Vensano, C. B. Wing.

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(6) **REED, TOM MARTIN**, 3309 Delaware St., Pittsburgh, Pa. (Age 52. Born Allegheny, Pa.) 1895 to 1907 with City of Allegheny, Pa., on street, sewer and bridge construction, until 1900 as Chainman, Rodman and Transitman, then (5 years) Asst. Engr. in charge, some design, and after 1905 (3 years) First Asst. Engr. in charge of field and office forces, Bureau of Eng. *TT 10.5: SP 2.5: P 8: RC 8: D 5.*—1908 to date with Bureau of Eng., Pittsburgh, Pa., 18 years as Div. Engr., Div. of Streets, in charge of field corps on street improvement, administrative work, and since then Chf. Engr. in charge of Bureau supervising all street and sewer construction, including all administrative work. *TT 22: P 22: RC 22: D 22.*—*TT 32.5: SP 2.5: P 30: RC 30: D 27.* Refers to N. F. Brown, A. R. Raymer, C. M. Reppert, J. M. T. Rice, R. M. Riegel, N. S. Sprague, W. D. Wiggins.

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(1) ROSE, HOWARD DEWITT, 43 Cormack Court, Babylon, N. Y. (Age 24. Born West Burlington, N. Y.) 1928 C. E., Syracuse Univ. TT 4: P 4.—June to Sept. 1928 Field Inspector, Portland Cement Association. TT 0.2: SP 0.2.—Sept. 1928 to date Jun. Asst. Engr., Grade 2, New York State Dept. of Public Works, surveying and inspecting construction. TT 0.6: SP 0.6.—TT 4.8: SP 0.8: P 4. Refers to L. Mitchell, S. D. Sarason.

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(12) RUETER, WILLIAM, 6111 Arcade Bldg., Seattle, Wash. (Age 42. Born near Forest Grove, Ore.) 1911 B. S. in C. E., Univ. of Ore. TT 4: P 4.—July 1908–Sept. 1909 Computer, and Dec. 1911 to Feb. 1912 Draftsman, City Engr.'s office, Portland, Ore. TT 0.7: SP 0.7.—July to Nov. 1911 Plant Inspector, Warren Bros. Co., Portland, on paving in Washington. TT 0.2: SP 0.2.—March 1912 to Aug. 1917 Estimator and Detailer of reinforcing steel and reinforced concrete design, Pacific Coast Steel Co., Portland and Seattle. TT 3.9: SP 1.6: P 2.3: D 2.3.—Sept. 1917 to April 1919 with A. W. Quist Co., Gen. Contrs., Seattle, Wash., estimating, detailing, purchasing, in charge of reinforcing steel crew on building and cantonment construction; 10 months Constr. Engr., being Asst. to Project Mgr., Bremerton housing project. TT 1.1: SP 0.6: P 0.5: D 0.5.—June 1919 to Oct. 1920 with J. A. McEachern Co., Gen. Contrs., Seattle, on building work, estimating, detailing, purchasing. TT 1: SP 0.5: P 0.5: D 0.5.—April to Sept. 1922 with Lorenz Bros., Gen. Contrs., Portland, estimating, detailing and purchasing. TT 0.2: SP 0.2.—March 1925 to May 1928, Nov.–Dec. 1928 and May–July 1929 in private practice as Structural Engr., on structural plans for Tacoma Ice Co. (\$100 000), Washington Masonic Home (\$450 000), A. V. Love Dry Goods Co., Seattle (\$125 000), Georgia Hotel, Vancouver, B. C. (\$900 000), Liggett and Republic Bldgs., Seattle (each \$700 000), Ellensburg (Wash.) Normal School (\$100 000), Pacific Power & Light (\$85 000), Liberty Savings & Loan (\$270 000), etc. TT 3.7: P 3.7: RC 3.7: D 3.7.—June to Oct. 1928 and Feb. to April 1929 with John Graham, Archt., on Bon Marche (\$3 000 000) and Exchange (\$2 000 000) Bldgs., Seattle. TT 0.7: P 0.7: D 0.7.—Jan. 1929 with Vernon Suckow, Engr. on Rainer Club Bldg., Seattle. TT 0.1: P 0.1: D 0.1.—Aug. 1929 to date associated with E. L. Strandberg, on structural design of King County Harborview Hospital, Seattle (\$2 000 000). TT 0.5: P 0.5: RC 0.5: D 0.5.—TT 16.1: SP 3.8: P 12.3: RC 4.2: D 8.3. Refers to H. L. Bushnell, A. S. Downey, C. A. McClain, F. F. Sinks, R. E. Smith, E. L. Strandberg, V. C. Suckow, M. O. Sylliaasen.

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(9) RUST, THOMAS H, 411 Oak St., Cincinnati, Ohio. (Age 40. Born Eau Claire, Wis.) Registered Structural Engr., State of Illinois.—1912 B. S., Univ. of Wis. TT 4: P 4.—1912 to 1917 with Chicago, Burlington & Quincy R. R., until 1914 as Bridge Draftsman and Bridge Designer, at Lincoln, Nebr., then Bridge Designer, Squad Leader and Inspection Engr., at Metropolis and Chicago, Ill. TT 5: P 5: RC 1.5: D 3.5.—1917 to 1920 Inspector and Fieldman, and Hydr. Asst. in Deaver, Wyo., and Denver, Colo., U. S. Reclamation Service, and (1½ years) war work and subprofessional work. TT 2.4: SP 0.7: P 1.7: D 0.2.—Feb.–Dec. 1921 Bridge Engr., State of Nebraska. TT 0.9: P 0.9: RC 0.9.—April 1922 to March 1923 Structural Designer and Bridge Designer, City of Milwaukee, Wis. TT 0.9: P 0.9: D 0.9.—March to Oct. 1923 Structural Designer, Sinclair Oil Co., Chicago, Ill. TT 0.6: P 0.6: D 0.6.—Nov. 1923 to Jan. 1925 Head Technician, Strauss Eng. Corporation, also on design and estimates. TT 1.2: P 1.2: RC 0.7: D 0.5.—Jan. to July 1925 Fabrication Checker on bridges, and July 1926 to May 1927 fabrication work, American Bridge Co., Gary, Ind. latter period also student (nights) Carnegie Inst. of Technology. TT 1.3: P 1.3: D 0.2.—July 1925 to July 1926 Squad Leader, South Park Commrs. for approval of Lake Front bridges, Chicago. TT 1: P 1: RC 1.—June to July 1927 with Strauss Eng. Corporation, Chicago, research on Arlington Memorial Bridge. TT 0.1: P 0.1: RC 0.1.—July 1927 to May 1928 Bridge Designer, Chicago & North Western R. R., at Chicago, with some work for Rock Island R. R. TT 0.8: P 0.8: D 0.8.—May 1928 to Dec. 1929 Bridge Designer and Inspection Engr., Cleveland (Ohio) Union Terminal. TT 1.6: P 1.6: RC 0.8: D 0.8.—Dec. 1929 to date Bridge Designer, Cincinnati Union Terminal Co. TT 0.1: P 0.1.—TT 20: SP 0.8: P 19.2: RC 5: D 7.5. Refers to F. L. Gorman, C. R. Hoyt, C. P. Marsh, C. E. Paine, R. E. Petty.

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(5) SANDLASS, RICHARD CHARLES, 4409 Maine Ave., Baltimore, Md. (Age 59. Born Gotha Thuringia, Germany.) 1895 Baugewerksmeister, Herzogliche Baugewerkschule, Holzminden, Germany.—April to Oct. 1895 with Structural Iron Erecting Co., Baltimore, Md., as Structural Draftsman and Designer of steel frame buildings. TT 0.5: P 0.5: RC 0.2: D 0.2.—Oct. 1895 to April 1899 with Campbell & Zell Co., Baltimore, about 6 months, as Structural Draftsman, then Chf. Draftsman, Designer and Estimator, Structural Steel Dept. and Foundry. TT 3.4: P 3.4: RC 2: D 1.—April 1899 to April 1904 Estimator, Designer

and Chf. Engr., Structural Steel and Ornamental Iron Dept., Bartlett-Hayward Co., Baltimore. *TT 5: P 5: RC 5: D 5.*—April 1904 to April 1923 Gen. Mgr. and Chf. Engr., Chesapeake Iron Works, Baltimore, in full charge of technical work; duties included designing and estimating structural steel and ornamental iron work for buildings, supervising drafting, fabrication and erection; after consolidation with Lauer & Harper Co. (1915) company added highway bridges to products, and after 1917 fabricated Bascule bridges and designed and produced electric traveling cranes. *TT 19: P 19: RC 19: D 19.*—April 1923 to Jan. 1926 in private practice as Cons. Engr., Baltimore; designed and supervised construction of plant and office building (about \$500 000) for Porcelain Enamel & Mfg. Co., silverware factory (about \$200 000) for Samuel Kirk & Sons, machine foundation for Buck Glass Co., new penthouse and alterations to continental Bldg., all in Baltimore; checked structural design of turbine house and turbine foundation at Holtwood, Pa., for Consolidated Gas Elec. Light & Power Co. of Baltimore; as Cons. Structural Engr. for Stanislaus Russell, Archt., designed and supervised construction of a Synagogue (difficult roof construction, steel frame for dome, 45 ft. in diameter), etc. *TT 2.7: P 2.7: RC 2.7: D 2.7.*—Jan. 1926 to date Cons. Engr., Sandlass & Wleman, Baltimore, on similar work but including structural shop detailing; firm has designed many structures, including additions to a boiler-plant and plate shop, a paint plant and a home, foundations and superstructure for a crusher building and a mill building, structural steel frame, reinforced concrete work and foundation for a swimming pool for a college gymnasium, etc. (list given in application). *TT 4: P 4: RC 4: D 4.*—*TT 3.4.7: P 3.4.7: RC 3.4.7: D 3.4.7.* Refers to H. F. Doeleman, A. H. Krone, E. Mowlds, W. W. Pagon, J. M. Russell, W. C. Schnabel.

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(12) SAUNDERS, ARTHUR LUMB, 746 First Ave. East, Kallispell, Mont. (Age 52. Born Nashua, N. H.) 1894 to 1897 (vacations and spare time) Rodman and Inspector, City Engr.'s office, Nashua, N. H., on sewers and pavement.—June 1898 to Jan. 1899 Rodman, U. S. Deep Waterways, on ship canal survey in New York. *TT 0.2: P 0.2.*—1899 to 1906 Rodman (1 year), Instrumentman (1 year) and Asst. Engr. on construction (5 years), Chicago & Northwestern Ry., in Iowa, Illinois, Michigan and Minnesota. *TT 6: SP 1: P 5: RC 5.*—1907 to 1908 Asst. Engr., Oregon Short Line Ry., in charge of construction in Oregon. *TT 0.5: P 0.5: RC 0.5.*—1908 to 1913 and 1919–1920 in private practice in Montana, on subdivision, private irrigation work, etc., and (1919 and 1920) Engr. and member of Land Classification Board, on classification and appraisal of lands and public utilities. *TT 7: P 7: RC 7.*—1914 to 1918 County Engr., Flathead County, Mont., in charge of all roads and bridges; built over 50 miles of gravel and crushed rock roads and several Howe truss bridges, designed system of road indexing, etc. *TT 4: P 4: RC 4.*—1921 and 1923 to 1925 Res. Engr., Glacier National Park, Mont., location work on highway over Rocky Mts., and (after 1923) in charge of location and construction under Chf. Engr. *TT 2.4: P 2.4: RC 2.4.*—1922 with Montana State Highway Comm. on location surveys and Public Service Comm., as Field Engr. on appraisal of Butte water system. *TT 0.8: P 0.8: RC 0.8.*—1926 to date City Engr. of Kallispell, Mont., in charge of streets, sewers, parks, etc., also Bldg. & Elec. Inspector. *TT 4: P 4: RC 4.*—*TT 2.5: SP 1.3: P 2.3.7: RC 2.3.7.* Refers to P. L. Boneysteele, R. Budd, E. B. Donohue, J. N. Edy, R. E. McDonnell, R. D. Rader, R. C. Young.

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(1) SERBER, GILBERT MORTIMER, 820 West End Ave., New York City. (Age 27. Born New York City.) 1922 A. B., and 1924 C. E., Columbia Univ. *TT 4: P 4.*—June to Oct. 1924 Draftsman, Concrete Dept., Delaware, Lackawanna & Western R. R. Co. *TT 0.3: P 0.3.*—Oct. 1924 to date Secy.-Treas., D. C. Serber, Inc., being Asst. Engr. in charge of construction and estimating industrial buildings, foundations, underpinning and subways. *TT 5.2: P 5.2: RC 5.2.*—*TT 9.5: P 9.5: RC 5.2.* Refers to J. K. Finch, M. Hirschthal, G. Paaswell, A. I. Ralsman, D. C. Serber, L. White.

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(4) SHOEMAKER, LEWIS FOULKE, Jr., Devon, Pa. (Age 27. Born Lansdowne, Pa.) 1923 C. E., Lehigh Univ. *TT 4: P 4.*—Jan. 1924 to date with Shoemaker Bridge Co. as follows: Jan. 1924 to April 1925 and Aug. 1925 to March 1926 Draftsman, detailing columns, beams, trusses, girders, floor beams, bracing, steel, etc., for bridges, buildings, power-houses, etc.; April to Aug. 1925 Asst. to Gen. Field Supt. during erection of steel for Luzerne County Gas & Elec. Corporation at Hunlock Creek, Pa., making field reports, correcting shop and drawing-room errors and assisting Supt. as second in charge of field forces; March to Nov. 1926 Estimator, estimating steel on engineers' and architects' drawings and designing of bridges and building, being responsible for work; Nov. 1926–Jan. 1929 Contr. Engr., being Asst. to Mgr. of Philadelphia Dist., estimating and selling structural steel; since Jan. 1929 Asst. Gen. Mgr., detailing, fabricating and erecting structural steel for bridges and buildings.



*TT 5.2: SP 0.9: P 4.3: RC 1.*—*TT 9.2: SP 0.9: P 8.3: RC 1.* Refers to W. F. Carson, J. H. Fichtorn, R. J. Fogg, M. O. Fuller, W. H. Gravell, C. W. MacCornack, S. H. Widdicombe.

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(1) **SPIRO, MAXWELL**, 9 Gifford Ave., Jersey City, N. J. (Age 35. Born New York City.) 1915 B. S. in C. E., Cooper Inst. Tech. *TT 4: P 4.*—1915 to 1916 Asst. Engr., Public Service Comm., New York State, on design, subway construction and open cut work. *TT 0.8: SP 0.3: P 0.5: D 0.5.*—1916 to 1917 Asst. Chf. Engr., Standard Steel Works, Burnham, Pa., on construction of roads, mill buildings, sewers, etc. *TT 1: P 1: RC 1.*—1917 to 1919 with U. S. Govt., as Commanding Officer, Motor Truck Co. 501, Motor Transport 422, Chf. Eng. Officer, Camp Montoir, France. *TT 2: P 2: RC 1: D 1.*—1919 to 1922 Gen. Mgr., Merchants Metals Corporation, New York City, buying and selling engineering machinery, and engineering estimates. *TT 3: P 3: RC 3.*—1922 to date member of firm, Maxwell Spiro & Co. and subsidiary, Steel Fabricators Corporation, Jersey City, N. J., fabricating and designing concrete bars for Hotel Lincoln, Starlight Park, etc., also similar work for Underpinning & Foundation Co., John E. Brady Corporation, Equity Constr. Co., etc., including details and engineering drawings; Corporation supplies, fabricates and erects apartment projects, such as Hudson View Gardens (600 tons of steel), an apartment house at 147th St. and Southern Boulevard (400 tons), and designed garages, mill buildings, etc.; designed, fabricated and erected steel approaches for Psychiatric Hospital, New York City, detailed, fabricated and erected structural steel work for Aquinas Hall Church, fabricated and erected structural steel work for Passaic Bank Bldg., East Orange Trust Co., etc. *TT 7: P 7: RC 7.*—*TT 17.8: SP 0.3: P 17.5: RC 12: D 1.5.* Refers to J. Barnett, H. C. Dinney, F. E. Foss, J. F. Jung, E. Leech, S. Shaw.

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(4) **STROHM, FRANK ALVIN**, 6111 Columbia Ave., Philadelphia, Pa. (Age 31. Born Philadelphia, Pa.) 1922 B. S., Pa. State Coll. *TT 4: P 4.*—Oct. 1922–June 1923 Field Engr., Atlantic Oil Producing Co., Dallas, Tex., oil field and trunk pipe-line and pumping-station construction, surveys for pipe line right-of-way acquisitions. *TT 0.7: P 0.7: RC 0.7.*—June to Oct. 1922 Transitman and July 1923 to date Field Engr. in charge Field Engr. Corps, Atlantic Refining Co., Philadelphia, Pa., on survey and field engineering for oil-refinery construction, service and bulk stations, in charge of strapping and computation of tank gauges for refineries, service stations and terminals. *TT 6.7: SP 0.1: P 6.6: RC 6.6.*—*TT 11.5: SP 0.1: P 11.4: RC 7.4.* Refers to R. W. Hoch, C. A. Mathews, W. Samans, A. H. Smith, E. D. Walker.

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(3) **SWEET, ARTHUR JARVIS**, 505 State St., Schenectady, N. Y. (Age 28. Born Jackson, Mich.) Sept. 1920 to June 1921 student in Eng., Univ. of Michigan. *TT 0.5: P 0.5.*—July 1919 to Aug. 1920 and July 1921 to date with R. H. Randall & Co., Inc., as follows: July to Dec. 1919 Recorder on topographic survey for City of Akron, Ohio, part of time being Party Chf. running traverse and levels; Jan.–Aug. 1920 Topographer in charge of mapping party, survey for Summit County, Ohio; July 1921–April 1923 Topographer, geodetic and topographic survey for Richmond, Va., in charge of mapping party and (part of time) of traverse and level party; May to June 1923 Res. Engr. in charge of topographic survey for Richmond, Ind.; June to Aug. 1923 Cartographer and Title Seacher, main office, preparing topographic maps of various cities and title searching at Cuyahoga County, Ohio; Sept. 1923–April 1924 Asst. Geodetic Engr., being Asst. Engr.-in-Chg., on survey of Pittsburgh, Pa., having complete charge of first-order triangulation (110 stations, 100 sq. miles); May 1924–April 1925 Engr.-in-Chg., geodetic and topographic survey for Schenectady, N. Y., triangulation, traverse and levels, topographic mapping, title searches; May 1925 to Nov. 1927 Dist. Engr. in complete charge of engineering work at Schenectady, Albany, etc., various surveys; since Dec. 1927 Dist. Engr. for Company and City Plan Engr. for Schenectady City Planning Comm., in charge of geodetic and topographic engineering work in district, and of planning studies at Schenectady, including planning future highways, parks and parkways for approx. 35 sq. miles. *TT 8.3: SP 1.3: P 7: RC 6.9: D 5.7.*—*TT 8.8: SP 1.3: P 7.5: RC 6.9: D 5.7.* Refers to G. M. Bowers, W. W. Chadsey, F. E. Harrison, R. H. Randall, H. A. Schauffer, W. C. Taylor, G. D. Whitmore.

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(12) **TIFFANY, ROSS KERR, Jr.**, Camp "B", Potlatch, Wash. (Age 25. Born Zillah, Wash.) 4 years student in Civ. Eng., etc., Washington State Coll. *TT 2: P 2.*—Feb. to Aug. 1923 Chainman and Rodman, and June to Sept. 1924 on irrigation development, Spokane Valley Farms Co., Spokane, Wash. *TT 0.4: SP 0.4.*—Nov. 1925 to Aug. 1927 Chainman, Rodman and Instrumentman, Washington Water Power Co., Spokane. *TT 0.9: SP 0.9.*—June 1928 to date with Public Utilities Dept., Tacoma, Wash., on Cushman Power

Project, until Jan. 1929 as Transitman in charge of party on spillway for first unit and 2½-mile tunnel for second unit, and since Jan. 1929 Asst. Engr., Grade 2, in charge of all surveys on the tunnel. TT 1.5: SP 0.1: P 1.4.—TT 4.8: SP 1.4: P 3.4. Refers to V. Gongwer, T. H. Judd, F. E. Rogers, J. L. Stannard, R. K. Tiffany.

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(7) TIPPEE, JOHN MELVILLE, 1754 Marella Trail, Des Moines, Iowa. (Age 41. Born Des Moines, Iowa.) 1916 B. S. in C. E., Iowa State Coll. TT 4: P 4.—July 1910 to Jan. 1911 Rodman, U. S. Govt., topographical and hydrographical survey of Des Moines River, Des Moines to Keokuk. TT 0.5: P 0.5.—Jan. to July 1911 Rodman and Chainman, and July 1911 to Jan. 1912 and June to July 1912 Instrumentman, Des Moines (Iowa) Eng. & Constr. Co. TT 1.1: P 1.1.—July 1912 to Jan. 1913 Res. Engr. with City Engr., Perry, Iowa, on paving and sewer work. TT 0.5: P 0.5: RC 0.5.—March to July 1913 Instrumentman, City of Des Moines, Iowa. TT 0.3: P 0.3.—July to Oct. 1913 Transitman, Des Moines & Central Iowa R. R. Co. TT 0.3: P 0.3.—Summer 1914 Instrumentman, and summer 1915 Asst. Engr., Des Moines Eng. & Constr. Co., surveying and general engineering.—April 1916 to date with City of Des Moines, until Jan. 1917 as Field Engr. in charge of sewer tunnel construction (4 000 ft.); Jan. to April 1917 Asst. Engr. in charge of bridge construction; April 1917 to April 1928 Asst. City Engr. in charge of bridge and sanitary design and construction, including construction of Grand Ave., Court Ave. and University Ave. reinforced concrete arch bridges (\$180 000, \$211 000 and \$393 000); design and supervision of construction of viaduct over Keosauqua Way (\$60 000), South Side (\$640 000), and Southwest (\$689 000), sewer systems, including pumping plant and appurtenances, inverted siphon under river and dry weather outfall, Beaver Ave. sewer and pumping plant (\$86 000), 33d St. storm water sewer (\$43 000), and numerous smaller projects; designed proposed N. E. sewer system, S. E. 6th St. viaduct and Walnut St. viaduct and bridge; since April 1928 City Engr. in charge of all engineering, except water-works. TT 13.7: P 13.7: RC 13.7: D 6.—TT 20.4: P 20.4: RC 14.5: D 6. Refers to T. R. Agg, C. C. Coykendall, O. W. Crowley, C. H. Currie, A. H. Fuller, P. F. Hopkins, A. Marston, A. E. Stoddard, J. E. Van Liew.

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(1) TOENSFELDT, HANS CARL THOMAS, 15 Park Row, New York City. (Age 50. Born St. Louis, Mo.) 1900 B. S. in C. E., Washington Univ., St. Louis, Mo. TT 4: P 4.—Summers 1899 and 1900 with Eng. Dept., St. Louis Transit Co., on track reconstruction.—Nov. 1900 to May 1904 with Brennecke & Fay, Cons. Engrs., St. Louis, as Asst. Engr. on design and Res. Engr. on construction of a sugar mill in Texas (about \$400 000), also assisted on surveys, design and field supervision of engineering work on railway bridges, elevated steel railway approaches, concrete abutments, retaining walls, foundations and steel superstructures, steelwork of trainshed extension and subway of Union Station, St. Louis, various engineering designs, computations, estimates and reports on buildings, foundations, sewers, etc. TT 2.8: SP 0.8: P 2.—July 1904 to April 1910 Structural Engr., Bldg. Dept., Board of Education, St. Louis, Mo. in direct and responsible charge of structural engineering work, standardized design, computations, drawings and specifications and directed and supervised draftsmen and subordinate engineers on design; supervised construction, reconstruction and additions (over \$6 000 000), including fireproof, structural steel and reinforced concrete school buildings, some with large auditoriums, gymnasiums, swimming-pools, art rooms, etc.; May 1905 to April 1907 also Chairman, Special Comm. of Engineers' Club of St. Louis drafting regulations for design and construction of reinforced concrete, and of Joint Comm. of engineers, architects, fire underwriters and contractors, which recommended their adoption for City Building Code. TT 5.8: P 5.8: RC 5.8: D 5.—April to Oct. 1910 Acting Commr., and Oct. 1910 to May 1914 Commr. of School Bldg., Board of Education, St. Louis, being Executive in responsible charge of construction, equipment, upkeep, operation and management of about 125 public-school buildings; also had charge of design, construction, upkeep and operation of electric-generating, heating and ventilating plants, clock-signal and telephone systems, etc. (expenditures over \$5 000 000). TT 4.1: P 4.1: RC 4.1: D 3.—Oct. 1915 to Feb. 1917 member of firm, Ewald, Allen & Toensfeldt, Archts., St. Louis, made structural and mechanical engineering design and collaborated in supervising construction of reinforced concrete fireproof building for Central Institute for the Deaf, etc. TT 1.3: P 1.3: RC 1.3: D 1.—March 1917 to July 1918 as Cons. Engr., designed and supervised construction of rubber-tire and tube manufacturing plant for The Rotary Tire & Rubber Co. at Zanesville, Ohio (about \$200 000). TT 1.3: P 1.3: RC 1.3: D 1.—July 1918 to Nov. 1919 Res. Mgr., Cleveland, Ohio, Office, Moreno-Burkham Constr. Co., Contrs., being Chf. Engr. in responsible charge of construction on Lorain (Ohio) Housing Project for U. S. Shipping Board, 181 modern houses, water-distribution, storm and sanitary sewerage systems, grading (about 42 acres), sub-grading

streets and laying sidewalks (cost about \$1 750 000). *TT 1.3: P 1.3: RC 1.3.*—Jan. to May 1921 Cons. Engr., The Superior Oil & Refining Co., standardized engineering design and estimating for construction of gasoline extraction plants. *TT 0.4: P 0.4: RC 0.4: D 0.4.*—Aug. 1921 to Aug. 1923 with an associate made extensive engineering survey, field investigations and tests of natural-gas supplies for gasoline extraction in Ontario and Alberta, Canada, etc. *TT 2: P 2: RC 2.*—April 1924 to Feb. 1925, as Pres., Toensfeldt-Boughton, Inc., made preliminary studies for and directed design, plans and specifications covering structural, mechanical, electrical engineering and architectural features for, and April 1925 to April 1926 as Pres., Central Dist. Constr. Corporation (subsidiary of Toensfeldt-Boughton, Inc.), organized, financed and built a modern apartment building in New York City, supervising sub-contracting and directing construction management in office and field (cost about \$250 000). *TT 1.8: P 1.8: RC 1.8: D 0.8.*—April 1926 to date Cons. Engr., New York City. *TT 3.8: P 3.8: RC 3.8.—TT 28.6: SP 0.8: P 27.8: RC 21.8: D 11.2.* Refers to E. B. Fay, C. Gayler, C. Gilman, A. P. Greensfelder, W. E. Rolfe, E. E. Wall.

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(11) **WALTON, HOWARD LACY**, Box 151, South Pasadena, Cal. (Age 37. Born Redlands, Cal.) Sept. 1919 to June 1920 Student, Stanford Univ. *TT 0.5: P 0.5.*—Completed courses in concrete highway structures, Wilson Eng. Corporation, in reinforced concrete design and water supply, Univ. of Southern California (evenings) and in hydraulics and design of reinforced concrete arches, Univ. of California, Extension Div.—May 1913 to Aug. 1915 and April 1916 to May 1917 with City of Ontario, Cal., as Asst. to City Engr., acting as Rodman, Chainman, Draftsman and Instrumentman, and (after April 1916) Asst. City Engr. in charge of field work, street and sewer construction, construction of maps and models for use in drainage lawsuits, etc. *TT 2: SP 1.4: P 0.6: RC 0.6.*—Aug. 1917 to Feb. 1919 with U. S. Army, first as Expert 1st Class Gunner, Battery F, 9th F. A. (Motorized), at Schofield Barracks, Hawaii, and later Radio Sergeant, 3d Aero Squadron, Post Field, Okla.—Oct. 1920 to Oct. 1923 in private practice as Land Surveyor and Subdivision Engr. on surveys, drainage and irrigation development, etc.; also did municipal engineering for Ontario. *TT 3: P 3: RC 2.5: D 0.5.*—Jan. 1924 to Jan. 1928 Prin. Asst. to Wm. Chalmers, Pasadena, Cal., also acted as Asst. City Engr., San Marino, Cal.; had complete charge of all field operations, topography, landscape work, subdivisions, streets and sewers. *TT 4: P 4: RC 4.*—Jan. 1928 to date Asst. City Engr., South Pasadena, Cal., in charge of field and office, on survey, design and construction of streets, storm drains, sewers and water-works, design calculations, assessments and specification writing. *TT 2: P 2: D 2.—TT 11.5: SP 1.4: P 10.1: RC 7.1: D 2.5.* Refers to T. D. Allin, R. L. Anderson, H. A. Barnett, W. E. Barney, W. J. Fox, F. C. Froehde.

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(7) **WEBSTER, HAROLD C** 490 Stratford Court, Milwaukee, Wis. (Age 44. Born in Dodge County, Wis.) Sept. 1904 to April 1906 and Feb. to June 1907 student, Coll. of Eng., Univ. of Wisconsin. *TT 1: P 1.*—April to Oct. 1906 Rodman, Chicago & North Western Ry. *TT 0.2: SP 0.2.*—Oct. 1906 to Feb. 1907 Rodman, June 1907 to April 1908 Instrumentman, and May to Nov. 1910 Instrumentman and Asst. Engr. on location, Chicago, Milwaukee & St. Paul Ry. *TT 0.9: SP 0.9.*—Sept. 1908 to May 1910 Chf. in field crew, T. M. E. R. & L. Co., on street railway location and construction. *TT 0.8: SP 0.8.*—Feb. 1911 to date Cons. Engr. in private practice with H. B. Kamschulte on surveying, planning and laying out sub-divisions, farm-drainage systems and small bridges, etc.; also Jan. 1912 to Jan. 1916 County Surveyor, Milwaukee County, and since May 1914 City Engr. in charge of design and construction of all municipal improvements, North Milwaukee, Wis.; last 5 years also had charge of design and construction of municipal improvements in several towns in Milwaukee County, including design of general sewer plan for 51 sq. miles. *TT 18.9: P 18.9: RC 18.9: D 7.—TT 21.9: SP 2: P 19.9: RC 11.9: D 7.* Refers to J. L. Ferebee, W. D. Gerber, T. C. Hatton, E. L. Knebes, R. R. Lundahl, D. W. Townsend, F. W. Ullius.

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(4) **WETZEL, CHARLES McKINLEY**, 5234 Horrocks St, Philadelphia, Pa. (Age 28. Born Beavertown, Pa.) June 1919 to Dec. 1920 and Nov. 1921 to June 1922 Draftsman, Rodman and Instrumentman, Pennsylvania State Dept. of Forestry, surveying, plotting surveys, etc. *TT 1.1: SP 1.1.*—Dec. 1920 to Nov. 1921 and June to Oct. 1922 Draftsman, until May 1921 with Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa., on computations, then with Mackintosh Hemphill Co., Pittsburgh, Pa., on rolling mill work, and 1922 with Standard Steel Works, on plant work and dies. *TT 0.7: SP 0.7.*—Oct. 1922 to Jan. 1923 Draftsman and Computer, Pennsylvania State Highway Dept., on relocation of highways, curve computations, laying grade line, estimating and earthwork calculations. *TT 0.3: P 0.3.*—Jan. 1923 to Aug. 1925 Structural Detailer and Designer, Standard Scale & Supply Co., on design



and detail of heavy duty and railroad track scales and foundations. *TT 2.6: P 2.6.*—Aug. 1925 to Aug. 1926 Structural Detailer, American Bridge Co., Ambridge, Pa., on mill and office buildings. *TT 1: P 1.*—Aug. 1926 to Sept. 1928 Structural Designer and Checker, Koppers Constr. Co., Pittsburgh, on industrial buildings, bins, conveyor bridges and conveyor equipment. *TT 2.1: P 2.1: RC 1.7.*—Sept. 1928 to Feb. 1929 Structural Designer, Rust Eng. Co., Pittsburgh, on cement plant; pack house, bins and conveyor bridges for Basic Products Co., Neville Island, Pa. *TT 0.5: P 0.5: RC 0.5.*—Feb. 1929 to date Structural Designer and Checker, United Engrs. & Constructors, on bridge work for Pennsylvania R. R., Philadelphia improvements, also suburban station. *TT 1: P 1: RC 0.5.*—*TT 9.3: SP 1.8: P 7.5: RC 2.7.* Refers to W. E. Belcher, W. K. Brownell, F. Henderson, R. G. Manning, T. B. Rights, T. S. Williams.

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(1) WEYMOUTH, ROBERT ISSELL, Grange Road, Egham, Surrey, England. (Age 34. Born Salcombe, Devon, England.) 1911 to 1914 Articled Pupil with G. I. Holmes, Surveyor, Salcombe, South Devon, municipal engineering. *TT 1.5: SP 1.5.*—1915 to 1919 military engineering, H. M. Corps of Royal Engrs. *TT 3: SP 1: P 2.*—1919 to 1921 Asst. Surveyor, Cornwall County Council, municipal engineering. *TT 2: P 2: RC 2: D 2.*—1921 to 1923 Asst. Borough Surveyor, Penryn Town Council, municipal engineering. *TT 2: P 2: RC 1: D 1.*—1923 to 1928 Chf. Engr. and Surveyor, St. Neots Urban Dist. Council, municipal and structural engineering, etc. *TT 4.5: P 4.5: RC 4.5: D 4.5.*—1928 to date Chf. Engr. and Surveyor, Egham Urban Dist. Council, municipal and structural engineering, bridge building, sewage disposal, road construction, etc. *TT 1.7: P 1.7: RC 1.7: D 1.7.*—*TT 14.7: SP 2.5: P 12.2: RC 9.2: D 9.2.* Refers to R. F. Chapman, T. C. Moorshead. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

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(7) WHITE, OMAR WASHBURN, 228 North Rankin St., Appleton, Wis. (Age 28. Born Chicago, Ill.) 1922 B. A. in Math., Univ. of Mont. 1925 B. S. in C. E., Univ. of Wis. *TT 4: P 4.*—July 1922 to April 1923 with State Forest Dept., Missoula, Mont., in charge of topographic mapping, timber estimates and reports, logging administration, cutting plans. *TT 0.7: SP 0.1: P 0.6: RC 0.6.*—April to Sept. 1923 with U. S. Bureau of Public Roads, as Topographer and Instrumentman on highway location and construction, one month Acting Res. Engr. *TT 0.3: SP 0.2: P 0.1: RC 0.1: D 0.1.*—March 1924 to Aug. 1925 (vacations and spare time while student) Draftsman, on drawings and computations, for Wisconsin Highway Comm., on state and Federal Aid highways and (after Dec. 1924) for Mead & Seastone, Cons. Engrs., Madison, also acting as Instrumentman. *TT 0.2: SP 0.2.*—Sept. 1925–Aug. 1926 Instructor in Structural Eng., Extension Div., Univ. of Wisconsin. *TT 0.5: SP 0.5.*—Sept. 1926–Aug. 1929 Asst. Engr. with Orbison & Orbison, Cons. Engrs., surveys, reports, design and construction of industrial structures, steam and hydro-electric power plants, dams, etc., industrial equipment layouts. *TT 3: P 3: RC 2: D 1.*—Sept.–Oct. 1929 Asst. Engr., O'Keefe-Orbison Eng. & Constr. Co., on design of steel and concrete paper-finish and storage building. *TT 0.2: P 0.2.*—Nov. 1929 to date Asst. City Engr., Appleton, Wis., on design and construction of sewers, pavements and public buildings. *TT 0.2: P 0.2: RC 0.2: D 0.2.*—*TT 9: SP 0.9: P 8.1: RC 2.9: D 1.3.* Refers to E. F. Gould, A. L. Hambrecht, D. W. Mead, C. V. Seastone, F. E. Turneaure, L. F. Van Hagan, C. N. Ward.

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(11) WHITING, WILLIAM ADDISON, 2620 California St., Huntington Park, Cal. (Age 36. Born Dayton, Wash.) Student, Washington State Coll. (Jan. to June 1916 and Feb. to May 1917) and Univ. of Arizona (Feb. 1925 to June 1927). *TT 1.5: P 1.5.*—1912 to 1915 Foreman, U. S. Reclamation Service, Okanogan Project, Washington, in charge of maintenance and construction of timber and concrete irrigation structures, including construction of two small hydro-electric stations. *TT 1.5: SP 1.5.*—July 1915 to Jan. 1916 Rodman and Inspector on construction of West Okanogan Irrigation Dist., Oroville, Wash. *TT 0.2: SP 0.2.*—June 1916 to Feb. 1917 and May to Sept. 1917 Surveyorman, U. S. Reclamation Service, St. Ignatius, Mont., and Yakima, Wash., being Inspector on construction of irrigation structures, Instrumentman on topography and surveys of St. Mary's Dam, assisting on construction of Little Bitter Root Dam. *TT 0.4: SP 0.4.*—Sept. 1917 to Feb. 1919 with U. S. Army as Corporal, Sergeant, Sergeant Major, 346th Field Artillery, attended Camp de Souge School of Artillery Fire (France) and other artillery schools.—Feb. to July 1919 Foreman, Warren Const. Co., building irrigation structures. *TT 0.2: SP 0.2.*—July 1919 to Jan. 1923 Supt. and Engr., Edwards, Fyfe & Co., Kennewick, Wash., in charge of concrete pipe plant, installation of pipe drainage and irrigation systems, design of farm and small district irrigation layouts. *TT 3.5: P 3.5: RC 3.5: D 1.5.*—Jan. 1923 to Feb. 1925 Foreman and Gen. Foreman, Imperial Valley Irrigation Dist., Imperial, Cal., in charge of timber and concrete construction

of irrigation and drainage structures. *TT 1.1: SP 1.1.*—June 1927 to June 1928 Supt. in charge of Centrifugal Concrete Pipe Dept., Bent Concrete Pipe Co., Los Angeles, Cal. *TT 1: P 1.*—June 1928 to date Research Engr. in charge of Experimental Dept., American Concrete Pipe Co., Los Angeles, technical studies of concrete pipe production, involving materials, methods and efficiency, reinforced concrete pipe design for exterior and interior loading. *TT 1.5: P 1.5.*—*TT 10.9: SP 3.4: P 7.5: RC 3.5: D 1.5.* Refers to R. S. Carberry, M. J. Dowd, W. L. Jencks, F. D. Pyle, F. W. Slattery, N. D. Whitman.

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(5) **WIEMAN, GEORGE ARNOLD**, 2528 Maryland Ave., Baltimore, Md. (Age 49. Born Baltimore, Md.) 1905 Diplom Ingenieur, Die Grossherzogliche Technische Hochschule Zu Darmstadt (Germany). *TT 4: P 4.*—July 1905 to Jan. 1926 with The Chesapeake Iron Works, Baltimore, Md., fabricators of structural steel for office and mill buildings, power houses, highway and Bascule bridges, electric travelling cranes, etc., until July 1906 as Draftsman, July 1906 to July 1907 Estimator, July 1907 to April 1923 Chf. Draftsman in charge of structural details and designs, and Asst. to Chf. Engr., and after April 1923 Chf. Engr. passing on structural parts of crane design. *TT 20.5: P 20.5: RC 18.5: D 18.5.*—Jan. 1926 to date Cons. Engr., Sandlass & Wieman, on structural shop detailing, design and supervision of construction of buildings, plants, foundations, superstructures, etc. *TT 4: P 4: RC 4: D 4.*—*TT 28.5: RC 22.5: D 22.5.* Refers to H. F. Doeleman, A. H. Krone, E. Mowles, W. W. Pagon, J. M. Russell, W. C. Schnabel.

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(15) **WILEY, MARNEY BEN**, 2410 Prairie Ave., Dallas, Tex. (Age 34. Born Davenport, Iowa.) 1916 B. E., Coll. of Applied Sci., State Univ. of Iowa. *TT 4: P 4.*—June to Nov. 1916 Office and Res. Engr. with K. C. Gaynor, Cons. Engr., Sioux City, Iowa, drafting and inspection on sewerage systems and pavement. *TT 0.2: SP 0.2.*—Dec. 1916–April 1917 with Iowa Steel & Iron Works, Cedar Rapids, Iowa, on design and detail of steel structures, shop drawings, etc. *TT 0.2: SP 0.2.*—May 1917 to July 1919 Lieut., Engrs., U. S. Army. *TT 1.3: SP 0.8: P 0.5: RC 0.5.*—Aug. 1919–March 1920 Asst. City Engr., Austin, Minn., in charge of preliminary studies and surveys for intercepting sewer and disposal plant. *TT 0.6: P 0.6: RC 0.5.*—April to Dec. 1920 with M. I. Evinger, Cons. Engr., Des Moines, Iowa, on design of municipal improvements. *TT 0.7: P 0.7: RC 0.2: D 0.3.*—April 1921–June 1922 with County Engr., Dallas, Tex., as Res. Engr. on construction of 14 miles of bitulithic pavement. *TT 1.2: P 1.2: RC 1.*—July 1922–March 1924 Supt. of Constr., Pittsburgh-Des Moines Steel Co., Dallas, Tex., on concrete foundations, water-works and gas distribution, Alexandria, La. *TT 1.7: P 1.7: RC 1.5.*—April 1924 to June 1925 Office Engr. with Koch & Fowler, Cons. Engrs., Dallas, on design of municipal improvements, also plans and improvements for real-estate subdivisions. *TT 1.1: P 1.1: RC 1.1: D 1.1.*—Oct. 1925–April 1926 with Superior Incinerator Co., Dallas, on design and detail of incinerators and buildings. *TT 0.6: P 0.6: D 0.4.*—May 1926 to date Chf. Engr., Mun. Eng. Co., Dallas, on design of municipal improvements, chiefly sanitary sewers and water works in Texas, Louisiana and Oklahoma. *TT 3.6: P 3.6: RC 2: D 3.6.*—*TT 15.2: SP 1.2: P 1.4: RC 6.8: D 5.4.* Refers to L. M. Chokla, W. S. Tanner, R. C. Thaxton, R. W. Willard, C. L. Williford, J. F. Witt.

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(1) **WILSON, CLAUDE THOMAS**, 123 Chester St., Mt. Vernon, N. Y. (Age 44. Born Waterville, N. Y.) 1907 B. A., Amherst Coll., 1909 B. S., Mass. Inst. Tech. *TT 4: P 4.*—Jan. 1910 to June 1912 Asst. Engr., Tidewater Bldg. Co. and Thomas B. Bryson, Sec. 11-A-3, Fourth Ave. Subway, Brooklyn. *TT 1.4: SP 1: P 0.4: RC 0.4.*—June 1912 to Nov. 1914 with Tidewater Bldg. Co., as Engr. in Chg., Whittemore Memorial Bridge, Naugatuck, Conn., and after April 1913 Supt., Long Hill Dam, Bethany, Conn. *TT 2.4: P 2.4: RC 2.4.*—Nov. 1914 to April 1918 with Standard Oil Co. of New York, Mech. Dept., Kings County Works, Brooklyn, and later in charge of Eng. Dept., East River Refineries. *TT 2.9: SP 0.5: P 2.4: RC 2.4: D 2.4.*—April 1918 to Nov. 1919 Lieut., Sr., U. S. N. R. F., Fifth Naval Dist., Norfolk, Va., being Clv. Engr. *TT 1.6: P 1.6: RC 1.6.*—Dec. 1919 to Nov. 1921 with Turner Constr. Co. as Asst. Supt., New Departure Job, Bristol, Conn. and later Contr. Engr. in Charlotte, N. C. and New York. *TT 1.3: SP 0.7: P 0.6: RC 0.6.*—Nov. 1921 to July 1922 Bldg. Mgr. of Flisk Bldg. for Cross & Brown, New York City, and later Sales Engr., Roofing Dept., Anaconda Copper Co. *TT 0.5: SP 0.2: P 0.3: RC 0.3.*—July 1922 to March 1923 with Turner Constr. Co., New York City, as Asst. Supt. of Havana Docks, Cuba, Contr. Engr., Atlanta, Ga., Asst. Supt. on Green Terminal, New York City, Supt. on work for Roto Print, Jamaica, N. Y. and Metropolitan Life Insurance, Bronxville, N. Y. *TT 3.8: SP 2: P 1.8: RC 1.8.*—May 1923 to Dec. 1929 Engr., Lawrence Portland Cement Co., New York City, promoting special cement and servicing work. *TT 1.6: P 1.6: RC 1.6: D 0.3.*—Dec.

1929 to date Vice-Pres., Herbert C. Elton & Co., Inc., Designers and Consultants, New York City. *TT 0.1: P 0.1.—TT 19.5: SP 4.3: P 15.2: RC 11.1: D 2.8.* Refers to H. C. Elton, F. R. Harris, J. C. Meem, J. P. H. Perry, F. W. Skinner, A. W. Stephens.

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(9) WILSON, ROSS ELLSWORTH, 118 Oak Terrace, Akron, Ohio. (Age 26. Born Lewis-town, Pa.) 1925 E. E., Univ. of Akron. *TT 4: P 4.*—June 1920 to Aug. 1921 (co-operative work) Instrumentman and Chf. of Party, Board of Education, Akron, Ohio, surveying school properties.—June 1922 to Oct. 1925 (until June 1925 co-operative work) with Akron Div., Baltimore & Ohio R. R., until Feb. 1925 as Asst. Engr., M. of W. Dept., on surveys, maps and layouts for railroad facilities, then Asst. Signal Supervisor, inspecting and supervising maintenance and construction of electrical and mechanical switch and signal facilities. *TT 0.3: P 0.3.*—Oct. 1925 to Aug. 1929 with Firestone Plantations Co., Liberia, West Africa, until June 1927 as Res. Engr., on surveying, mapping, road location and construction of roads, bridges and buildings, then Group Engr., in charge of construction of roads, bridges, buildings, power and water lines, sanitation, etc. for rubber plantation. *TT 3.9: P 3.9: RC 2.1: D 2.1.*—Aug. 1929 to date Field Engr., Real Estate Constr. Dept., Firestone Tire & Rubber Co., Akron, Ohio, supervising plans and construction of automobile service-station buildings (about \$40 000 each). *TT 0.5: P 0.5: D 0.2.—TT 8.7: P 8.7: RC 3.1: D 2.3.* Refers to F. E. Ayer, J. W. Bulge, M. L. Davis, R. C. Durst, C. F. Maynard.

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(15) WOLFARD, NOAH ELLSWORTH, 324 South Santa Fe, Norman, Okla. (Age 43. Born Encampment, Wyo.) 1910 B. S. and B. C. E., Valparaiso Univ., 1926 M. S., Iowa State Coll. *TT 4: P 4.*—Sept. 1910 to March 1912, Sept. 1912 to Feb. 1914 and May to Oct. 1914 Irrigation Engr., Encampment, Wyo., on surveys, plats, estimates for water rights, etc. *TT 3.5: P 3.5: RC 3.5: D 0.5.*—March to May 1912 Rodman, Inspector and Squad Boss on irrigation construction, Costilla Estates Development Co. *TT 0.1: SP 0.1.*—Feb. to May 1914 student, Univ. of Wyoming.—Oct. 1914 to July 1916 locating, posting and registering claims, locating wells, waterholes, roads on desert. *TT 0.8: P 0.8: RC 0.8.*—July 1916 to May 1917 Recorder, and May to Aug. 1917 Instrumentman, Chicago, Burlington & Quincy R. R., Lincoln, Nebr., in charge of party on measurements, roadbed, earthwork, channel changes, ditches, cribbing riprap, etc. *TT 1.2: P 1.2: RC 0.4.*—Aug. 1917 to July 1918 Draftsman, City Engr.'s office, Kansas City, Mo., drafting, computation and design of sewer layouts and appurtenances. *TT 0.7: SP 0.3: P 0.4: D 0.1.*—July to Oct. 1918 with U. S. Army, Chf. of Party, Q. M. C., Constr. Div., Camp Humphreys, Va., on surveys for sewer and water system. *TT 0.3: P 0.3: RC 0.3.*—Oct. 1918 to date with Univ. of Oklahoma, until June 1919 Instructor in S. A. T. C. & Vocational Training and (½ year) Civ. Eng., June 1919 to June 1925 Asst. Prof., and since June 1925 Associate Prof. of Civ. Eng.; summers on highway, drainage and flood control surveys and (1923 and 1924) Cons. Engr. on highway branch program (\$100 000) for Cleveland Co., Okla. *TT 11.2: P 11.2: RC 10.5.—TT 21.8: SP 0.4: P 21.4: RC 15.5: D 0.6.* Refers to T. R. Agg, W. L. Benham, C. E. Bretz, J. F. Brookes, G. R. Clemens, V. H. Cochrane, B. S. Myers.

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(14) WOPAT, JOHN WILLIAM, 406 West Thirty-Fourth St., Kansas City, Mo. (Age 45. Born New York City.) 1909 B. S. in E. E., Univ. of Mich. *TT 4: P 4.*—June 1909 to Nov. 1911 Supt. of Constr., Niagara & Ontario Constr. Co., supervised construction of 110 000-volt transmission line for Hydro Power Comm. of Ontario. *TT 1.6: P 1.6: RC 1.6.*—Nov. 1911 to Dec. 1922 Supervisor of Constr., in charge of construction of telephone plants and buildings, until Dec. 1912 with New York Telephone Co., then with Missouri & Kansas Telephone Co. (S. W. Bell Tel. Co.). *TT 11: P 11: RC 11.*—Dec. 1922 to Jan. 1925 Chf. Engr., Kansas City Telephone Co. (S. W. Bell Tel. Co.), on plant layout, design of buildings and equipment. *TT 2: P 2: RC 2: D 2.*—Jan. 1925 to date Cons. Engr., Diversified Investment, Inc., on plant layout, design of building and equipment. *TT 5: P 5: RC 5: D 5.—TT 23.6: P 23.6: RC 19.6: D 7.* Refers to H. M. Brush, W. O. Galbreath, A. C. Lingley, B. H. Piepmeyer, A. F. Schramm.

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(5) WRIGHT, MARSHALL SHELDON, 34 Vista Ave., Oakcrest, Alexandria, Va. (Age 39. Born Toronto, Ont., Canada.) April 1910 to April 1911 Chainman, Rodman and Levelman on survey of Gilmore & Pittsburgh R. R. *TT 0.5: SP 0.5.*—April to Dec. of years 1911–1913 Chainman, Transitman and Prin. Asst. on General Land Office parties in Idaho, Utah and Nevada; winters Commercial Draftsman, and special student at Utah Agricultural Coll. *TT 1.6: SP 0.6: P 1.*—April to Dec. 1914 Prin. Asst. and Chainman on patent surveys of Homestead Entries on National Forest of Utah, Nevada and Idaho. *TT 0.4: SP 0.4.*—March 1915 to June 1919 U. S. Surveyor, General Land Office, on surveys, resurveys in Idaho, Oregon, Utah, Nevada and California, in direct charge of single and double parties. *TT 4.2:*



*P. 4.2: RC 4.2.*—June, 1919 to Oct. 1929 with U. S. Forest Service, until 1921 on Entry Survey work, in direct charge of all work and several field parties, then Chf. of Surveying and Mapping Division in Dist. Office, Ogden, Utah, and (6 years) of entire Service; after Oct. 1923 also Asst. Engr., under Chf. Engr., on special research for standards of road construction and assisting in preparation of Road Construction Handbook. *TT 10.3: P. 10.3: RC 10.3.*—Oct. 1929 to date Sales Engr. and Western Representative, Aerotopograph Corporation of America, Washington, D. C.—*TT 17: SP 1.5: P. 15.5: RC 14.5.* Refers to C. H. Birdseye, F. E. Bonner, J. C. Dort, F. M. Johnson, J. P. Martin, T. W. Norcross, W. H. Richards, Jr.

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(4) **WURSTER, CHARLES HERMAN, Jr.**, 627 East Allens Lane, Mt. Airy, Philadelphia, Pa. (Age 48. Born in Germany.) Registered Prof. Engr., State of Pennsylvania. 1897 to 1903 Student and Draftsman with Chas. Barton Keen and Frank E. Mead, Archts., Philadelphia, Pa., detailing, sketching and making scale plans for residence and institutional buildings. *TT 2.5: SP 2.5.*—1903 to 1910 Draftsman-Checker, in charge of Eng. Squad, Plant and Efficiency Engr., Link Belt Co., Philadelphia, taking field measurements, making layouts, structural and mechanical detailing, checking and supervising squad, Eng. Dept., shop planning and plant engineering; Co-patentee for two machines. *TT 6: SP 1: P. 5: RC 3.*—1910 to 1917 Architectural and Constr. Engr., at Philadelphia, designing, preparing plans and specifications for commercial and industrial buildings, 5 years with Fred. A. Havens Co., then with J. Sims Wilson & Co., last 2 years also estimating on contracts. *TT 7: P. 7: D. 7.*—1917 Plan and Systemizing Engr., Emergency Fleet Corporation, Housing Dept., installing system of progress charts, reports, material stores and routings. *TT 0.5: P. 0.5: RC 0.5.*—1918 to 1920 Architectural, Constr. Engr. and Estimator, F. W. Mark Constr. Co., planning and supervising installation of mechanical plant for fuel-oil base for U. S. Navy, Yorktown, Va.; estimate and proposals for office, institutional commercial and industrial buildings. *TT 2.5: P. 2.5: RC 2.5.*—1920 to date Vice-Pres., in charge of engineering and estimating, Geo. Kessler Contr. Co., on design, plans and specifications, field engineering, supervision, estimates, proposals and contracts. *TT 9: P. 9: RC 9: D. 9.*—*TT 27.5: SP 3.5: P. 24: RC 15: D. 16.* Refers to M. Brooks, W. P. Cameron, J. Cantley, W. H. Courtenay, W. H. Gravell, J. J. Grellis, Jr., J. G. Shryock.

## FOR TRANSFER

### FROM THE GRADE OF ASSOCIATE MEMBER

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(2) **CAMP, THOMAS RINGGOLD**, Assoc. M., Massachusetts Inst. Technology, Cambridge, Mass. (Elected Junior March 7, 1921; Assoc. M. May 28, 1923.) (Age 34. Born San Antonio, Tex.) 1916 B. S. in Arch. Engr., Tex. Agri. and Mech. Coll. 1925 S. M., Mass. Inst. Tech. *TT 4: P. 4.*—March to July 1913 Rodman, Recorder and Computer, Guadalupe Water Power Co., Seguin, Tex., on topographic survey of Guadalupe River.—Summer 1915 Structural and Architectural Draftsman, Southern Steel Co., San Antonio, Tex.—June 1916 to Sept. 1917 Draftsman and Chf. Field Draftsman, Texas Power & Light Co., Dallas, Tex., on power-line location. *TT 1.2: P. 1.2: RC 0.5.*—Sept. to Dec. 1917 Draftsman and Progress Clerk on construction of Camp Travis, San Antonio. *TT 0.3: P. 0.3.*—Dec. 1917 to April 1919 Private, etc., to 2d Lieut., 67th Regt., C. A. C., U. S. Army, 9 months with A. E. F. in France. *TT 0.6: SP 0.6.*—May 1919 to Feb. 1920 Valuation Engr. with Bailey & Collins, Dallas, Tex., on cotton seed oil mills and gins. *TT 0.7: P. 0.7.*—Feb. to July 1920 member of firm, Osborn & Camp, Dallas and Breckenridge, Tex., on surveys and drafting. *TT 0.5: P. 0.5: RC 0.5: D. 0.1.*—July 1920 to Feb. 1921 Field Engr., Cox Eng. Co., Dallas, on topographic surveys and construction of levees. *TT 0.7: P. 0.7: RC 0.7.*—March to July 1921 Asst. to Res. Engr., Nagle-Witt-Rollins Eng. Co., at Breckenridge, on county highway project (\$3 500 000). *TT 0.3: P. 0.3: RC 0.3.*—July 1921 to Feb. 1922 and June to Oct. 1923 with John B. Hawley, Cons. Engr., Ft. Worth, Tex., as Res. Engr. on construction of filtration and pumping plant\* (\$60 000) for Walker-Caldwell Water Co., Breckenridge, and (1923) Designing Engr. on sewer extensions (\$500 000) for Ft. Worth, disposal plant for Stamford and filter plant for Sweetwater, Tex. *TT 0.9: P. 0.9: RC 0.9: D. 0.6.*—Feb. 1922 to June 1923 Res. Engr. for Hawley & Sands, Cons. Engrs., at Breckenridge, on sanitary sewerage system and disposal plant (\$235 000) and paving program (\$325 000), prepared all paving designs and final sewer designs; after June 1922 also City Engr. of Breckenridge. *TT 1.3: P. 1.3: RC 1.3: D. 0.8.*—Summer 1924 Asst. to City Engr., Medford, Mass.—June 1925 to Nov. 1928 member of firm, Spoon, Lewis & Camp, Cons. Engrs., Greensboro, N. C., wrote all reports and had charge of all design of water-works,

water purification, sewerage, sewage disposal, paving, etc., in twelve cities and towns (about \$700 000). *TT 3.4: P 3.4: RC 3.4: D 3.4.*—Nov. 1928 to Nov. 1929 Chf. Designing Engr. for Alexander Potter, Cons. Engr., New York City, on water-works, sewerage and sewage disposal (about \$5 000 000). *TT 1: P 1: RC 1: D 1.*—Nov. 1929 to date Associate Prof. in charge of instruction in sanitary engineering, Massachusetts Inst. of Technology. *TT 0.2: P 0.2: RC 0.2.*—*TT 15.1: SP 0.6: P 14.5: RC 8.8: D 5.9.* Refers to J. H. Fuertes, J. B. Hawley, M. den H. Kolyn, C. F. Lewis, H. E. Miller, E. N. Noyes, A. Potter, C. M. Spofford, C. H. Sutherland, R. G. Tyler.

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(11) DOWD, MUNSON JULIUS, Assoc. M., Care, Imperial Irrigation Dist., Imperial, Cal. (Elected Junior, Jan. 13, 1919; Assoc. M., Dec. 14, 1925.) (Age 33. Born Malden, Mass.) 1918 B. S. in Civ. Eng., Cal. Inst. Tech. *TT 4: P 4.*—Summers at Mt. Wilson observatory as Electrician's Helper, rewiring 60-in. telescope (1913), Helper on reinforced concrete construction of heavy foundations and buildings (1914), Erector, Holder-on and Riveter on erection of structural steel buildings (1915) and Machinist's Helper, erection of 100-in. telescope on Mt. Wilson (1916). Summer 1917 Chainman and Draftsman, Southern California Edison Co., transmission line surveys and maps.—May 1918 to Feb. 1919 with Southwestern Shipbuilding Co., various work on steel ship construction. *TT 0.4: SP 0.4.*—March 1919 to June 1922 with Bureau of Reclamation, Yakima Project, Sunnyside Div., until Nov. 1919 as Jun. Engr. on hydrometry, drafting and surveys, then Maintenance Engr. in charge of engineering, hydrometry and water records. *TT 3.3: P 3.3: RC 2.6: D 1.5.*—July 1922 to date with Imperial Irrigation Dist., until March 1925 as Watermaster in charge of operation of main canals in United States and Mexico, and to users in Mexico and Calexico Div., April to July 1925 Gen. Watermaster in complete charge of canal system in Mexico, Gen. Water Office in United States and telephone system, Aug. 1925 to Nov. 1926 Gen. Supt. and since Dec. 1926 Chf. Engr. and Gen. Supt., in full charge of district operations delivering water to over 400 000 acres in United States and 200 000 acres in Mexico, also river protection and drainage work, investigations, etc. *TT 7.6: P 7.6: RC 7.6: D 5.*—*TT 15.3: SP 0.4: P 14.9: RC 10.2: D 6.5.* Refers to G. B. Heywood, F. D. Pyle, S. L. Rothery, F. W. Slattery, F. Thomas, V. Wood.

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(14) GALBREATH, WILLIAM OTTO, Assoc. M., 3539 Olive St., Kansas City, Mo. (Elected April 6, 1904.) (Age 58. Born Hebron, Ind.) 1898 B. S., Kans. State Univ. *TT 4: P 4.*—April 1899 to Aug. 1903 Instrumentman, Div. and Locating Engr., and July 1905 to Sept. 1906 Div. Engr., Mexican Central R. R. on location and construction. *TT 5.5: P 5.5: RC 4.1: D 4.1.*—Nov. 1903 to June 1904 Locating and Constr. Engr., San Carlos Copper Co., Mexico, in charge of location and design of bridges and structures on 60 km. of railway. *TT 0.7: P 0.7: RC 0.7: D 0.7.*—Jan. 1907 to March 1912 Div. Engr., Mexican National Ry. and (later) National Rys. of Mexico, on construction, and maintenance of way and structures in several divisions; had charge of construction and of part of design of shops and yards at New Laredo, including water-supply, pipe-lines, steel tank and pumping-plant tracks, buildings, timber trestles, etc. *TT 5.2: P 5.2: RC 5.2: D 5.2.*—April 1912 to May 1916 Engr., M. of W., Missouri and North Arkansas R. R., in charge of maintenance and construction; designed and built general yards, and shops at Harrison, Ark., smaller shop layouts at Heber Springs and Outer Yards, also station buildings. *TT 4.2: P 4.2: RC 4.2: D 4.2.*—June to Sept. 1916 Engr. on design and construction of water-works for Harrison, Ark. *TT 0.3: P 0.3: RC 0.3: D 0.3.*—Oct. 1916 to Oct. 1917 Asst. Engr. and Engr., M. of W. Chicago Great Western R. R. *TT 1: P 1: RC 1: D 1.*—Nov. 1917 to Nov. 1920 Chf. Engr., Missouri, Oklahoma and Gulf R. R.; designed and built several yards, depots, water-stations, reinforced concrete bridges, etc. *TT 3: P 3: RC 3: D 3.*—Dec. 1920 to June 1921 Asst. Engr., Kansas City Southern R. R., on location, reports on bridge changes, yard consolidations, etc. *TT 0.6: P 0.6: RC 0.6: D 0.6.*—Aug. 1921 to July 1922 Asst. Engr., Missouri Pacific R. R., in charge of second track construction and made reports on estimated cost of construction. *TT 1: P 1: RC 1: D 1.*—Jan. 1923 to July 1924 Contractor, Chillicothe, Mo., on construction of brick pavement and sewer work. *TT 0.8: SP 0.8.*—Aug. 1924 to date Valuation Engr., U. S. Dept. of Agriculture. *TT 5.4: P 5.4: RC 5.4.*—*TT 31.7: SP 0.8: P 30.9: RC 25.5: D 20.1.* Refers to M. C. Blanchard, C. C. Crew, A. T. Cushing, E. A. Hadley, C. E. Johnston, F. G. Jonah, A. F. Schramm, H. M. Taylor.

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(1) HESS, SETH GERSON, Assoc. M., 242 West Seventy-Sixth St., New York City. (Elected April 20, 1925.) (Age 36. Born New York City.) 1915 C. E., Cornell Univ. *TT 4: P 4.*—July 1915 to July 1917 with Northern Waterproofing Co., New York City, estimating, supervising construction and installing waterproofing. *TT 1.8: SP 0.3: P 1.5: RC 1.*—Aug.

to Nov. 1917 Asst. Engr., Office of Superv. Engr., Camp Meade, Md., designing and detailing of utilities, including water filtration, dam, elevated tanks; in charge of record plans. *TT 0.3: P 0.3: RC 0.2: D 0.2.*—Dec. 1917 to Aug. 1919 1st Lieut., Coast Artillery Corps, 74th Ry. Artillery, U. S. Army, on triangulation mapping, mounting 12-in. mortars and road construction. *TT 1.1: SP 0.6: P 0.5: RC 0.5.*—Aug. to Nov. 1919 Senior Engr., U. S. Shipping Board, checking designs and preparing estimates of utilities. *TT 0.3: P 0.3.*—Nov. 1919 to April 1920 Senior Asst. Engr. with Morris Knowles, Inc., assisted in text on city planning, designs, investigations and reports, in charge of preparation of maps for Pittsburgh City Planning Comm. *TT 0.4: P 0.4: RC 0.2.*—April 1920 to April 1922 in real estate business, brokerage, management and alterations. *TT 1: SP 0.5: P 0.5.*—April 1922 to date Asst. and Prin. Asst. Engr. for Alexander Potter, New York City, field supervision of construction, design, specifications, reports and investigations for various water-supply, drainage, sewer and sewage-treatment projects (major projects \$500 000 to \$5 000 000). *TT 7.7: P 7.7: RC 7.3: D 6.*—*TT 16.6: SP 1.4: P 15.2: RC 9.2: D 6.2.* Refers to A. N. Aeryns, E. B. Besselleve, C. L. Bogert, C. Gilman, N. B. Jacobs, A. Potter, E. S. Rankin, C. M. Reppert.

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(12) HUNT, THOMAS DEWICK, Assoc. M., 536 County-City Bldg., Seattle, Wash. (Elected Dec. 14, 1925.) (Age 43. Born Liverpool, England.)—Jan. 1917 to date (except Oct. to Nov. 1918, 1st Lieut., Engrs., U. S. Army) with King County Engrs. Office, Seattle, Wash., as follows: Jan. 1917 to Jan. 1921 Deputy County Engr. on office work; Jan. 1921 to April 1927 and Aug. to Dec. 1928 Office Engr. on plans, specifications, estimates and design of structures and pavements, in responsible charge of office and (part of time) supervising field and office forces, etc.; May 1927 to July 1928 Permanent Highway Maintenance Engr., in charge of maintenance of permanent highways; since Jan. 1929 County Engr., in charge of construction (approx. \$5 000 000) and surveys of roads, bridges, etc., also airport at Boeing Field (under construction). *TT 12.9: P 12.9: RC 9.2: D 7.8.* Refers to T. R. Beeman, D. H. Evans, E. B. Hussey, T. G. McCrory, D. W. McMorris, P. Mogensen, C. N. Reitze.

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(1) KASS, NATHAN ISIDOR, Assoc. M., 167 Beaumont St., Manhattan Beach, Brooklyn, N. Y. (Elected April 7, 1924.) (Age 44. Born Poltava, Russia.) 1911 B. S. and 1914 C. E., Cooper Union.—Aug. 1906 to June 1908 Mech. Draftsman with *Railway Age Gazette*, New York. *TT 0.9: SP 0.9.*—Aug. 1908 to June 1911 Mech. and Structural Draftsman, F. L. Smidth & Co., New York City, designers and builders of cement factories. *TT 1.4: SP 1.4.*—June 1911 to Jan. 1912 Draftsman with Lederle & Provost, San. Engrs., New York City. *TT 0.8: SP 0.8.*—Jan. 1912 to Jan. 1915 Asst. Engr. and Draftsman with Johnson & Fuller, Cons. San. Engrs., New York City. *TT 2.5: SP 0.5: P 2.*—May 1915 to Oct. 1920 Asst. Engr., until May 1916 with Hering & Gregory, then with Hill & Ferguson, Cons. Engrs., New York City, on studies, design and plans for water-purification and sewage-treatment plants and sewerage systems, part of time in charge of design and computations. *TT 5.4: P 5.4: RC 2.4.*—Oct. 1920 to Aug. 1923 not on engineering work.—Aug. 1923 to date Asst. Engr. in charge of design and computation with Nicholas S. Hill, Jr., Cons. Engr., New York City, on water-treatment and sewage-treatment plants, sewage-disposal work, sewerage systems, etc. (some named in application). *TT 6.3: P 6.3: RC 6.3.*—*TT 17.3: SP 3.6: P 13.7: RC 8.7.* Refers to G. H. Buck, H. H. Chase, E. W. Clarke, F. P. Gilbert, N. S. Hill, Jr., G. A. Johnson, S. K. Knox, A. T. Ricketts.

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(11) McFARLAND, DANIEL ROBERT, Assoc. M., Azusa, Cal. (Elected Aug. 9, 1920.) (Age 38. Born Solon, Iowa.) 1914 B. S., Univ. of Ore. *TT 4: P 4.*—June 1914 to Feb. 1916 Engr. on drainage surveys, design, estimates and municipal work at Madison, S. Dak. *TT 1.5: P 1.5.*—Feb. to June 1916 special course at Massachusetts Inst. of Technology.—June 1916 to Jan. 1919 Mgr. of a department and later Supervisor at Morgan Memorial, Boston, Mass., also Purchasing Agt. in charge of heating, lighting, repairs to and construction of buildings. *TT 2.5: P 2.5: RC 1.*—Jan. 1919 to Feb. 1920 Private Engr. at Grants Pass; designed and built concrete dam for Irrigation & Power Co., had charge of surveys and design of irrigation system for Gravity Dist., Improvement Co., also on work for Wilderville Irrigation Co. *TT 1.1: P 1.1: RC 1.1.*—Feb. 1920 to May 1921 Engr., Rogue River Valley Canal Co., Medford, Ore., and on private work; had charge of survey and design of a canal system (10 000 acres), etc. *TT 1.2: P 1.2: RC 1.2.*—May 1921 to April 1923 Asst. Res. Engr. on Don Pedro dam (concrete, 285 ft. high, \$5 000 000) and power house, Turlock (Cal.) Irrigation Dist. *TT 1.9: P 1.9: RC 1.9.*—April 1923 to Aug. 1924 Field Engr., Carquinez highway bridge (steel, spans 3 350 ft., 1 100 ft. and 500 ft. \$8 000 000), American Toll Bridge Co., San Francisco, Cal. *TT 1.3: P 1.3: RC 1.3.*—Aug. 1924 to July 1926 Res. Engr., Exchequer dam (concrete, 326 ft. high, \$6 000 000) and power house, Merced (Cal.)



Irrigation Dist. TT 1.9: P 1.9: RC 1.9.—July 1926 to July 1927 Asst. Engr., Buck's Creek project, Feather River Power Co., at Storr, Cal., had charge of dam (90 ft. high), tunnel (10 000 ft. long), penstock (2 570-ft. head) and power house. TT 1: P 1: RC 1.—July 1927 to May 1928 Res. Engr., San Gabriel dam, Los Angeles County Flood Control Dist., Los Angeles, Cal. TT 0.8: P 0.8: RC 0.8.—Oct. 1928 to date Engr., Yuba Associated Engrs., San Francisco, Cal., had charge of investigation of power resources of Plateau Prov. of Nigeria. TT 1.2: P 1.2: RC 1.2.—TT 18.4: P 18.4: RC 11.4. Refers to P. Bailey, F. E. Bonner, G. J. Calder, C. Derleth, Jr., D. H. Duncanson, E. C. Eaton, S. M. Fisher, H. K. Fox, H. J. Gilkey, L. R. Jorgensen, S. B. Morris, C. E. Pearce, O. Speir, G. Stubblefield, R. White, A. J. Wiley.

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(1) MUSS, JOSHUA, Assoc. M., 101 Twenty-Ninth St., North Bergen, N. J. (Elected March 15, 1926.) (Age 33. Born Zosli, Russia.) Licensed Prof. San. Engr. and Land Surveyor, State of New Jersey, and Prof. Civ. and San. Engr. and Land Surveyor, Sate of New York.—1920 B. S., Mass. Inst. Tech. TT 4: P 4.—Summer 1919 Laboratory Technician, J. V. N. Dorr Co., New York City, on chemical tests and operation of experimental activated sludge plant, Mt. Vernon, N. Y., and development of rotary screens and thickener mechanisms.—Aug. to Dec. 1919 with Engr. Reserve Corps, U. S. Army, and Students' Army Training Corps.—June 1920 to March 1925 with San. Dist. of Chicago, until May 1921 as Jun. Asst. Engr., drafting, office work and operation of experimental sewage-treatment plants, then Jun. Engr. on sanitary studies and design of sewers, pumping stations and sewage-disposal plants, and after Aug. 1922 Asst. Engr. on hydraulic and concrete design and preparation of plans and specifications for trunk sewers, multiple-tube siphons, diversion chambers, pumping stations and sewage-disposal plants; Sept. 1920 to June 1921 also graduate work in direct and alternating current machinery, Lewis Inst. of Technology, Chicago, Ill. TT 3.6: SP 1.1: P 2.5: RC 2.5: D 2.5.—March 1925 to date with Township of North Bergen, N. J., until Aug. 1925 as Res. Engr. on construction of Northern sewage-disposal plant (6 000 000 gal. daily), then on design, plans and specifications for, and Jan. 1926 to Oct. 1929 in charge of construction of, Central sewerage system and sewage-disposal plant (approx. \$2 500 000), also design, plans and specifications for, and assisting Assessment Commrs. in assessing pumping stations, sewers, culverts, paving work, etc. (over \$10 000 000), and since Nov. 1928 on design of proposed Southern sewerage system and sewage-disposal plant (7 500 000 gal. daily); Sept. 1926 to June 1927 also student, gasoline engines and power plants, Knights of Columbus Extension School. TT 4.9: P 4.9: RC 4.9: D 4.3.—TT 12.5: SP 1.1: P 11.4: RC 7.4: D 6.8. Refers to O. L. Eltinge, F. J. Laverty, H. L. McMillan, L. Pearse, F. J. Radigan, H. P. Ramey, W. M. Schlossman, C. M. Spofford, L. C. Whittemore, G. F. Wiegardt.

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(3) PRENTICE, EDWARD HARPER, Assoc. M., 22 Lincoln Ave., Binghamton, N. Y. (Elected Junior April 30, 1912; Assoc. M. April 18, 1916.) (Age 40. Born Paterson, N. J.)—Sept. 1907 to June 1909 and Sept. 1912 to Jan. 1914 student, Rensselaer Polytechnic Inst. TT 1.5: P 1.5.—Jan. 1910 to Sept. 1912 and Jan. 1914 to Jan. 1916 with Bureau of Eng., Schenectady, N. Y., as Rodman and Instrumentman on sewer work and topographical surveys, and (after Jan. 1914) Asst. Engr. in charge of sewer construction, design and construction of 16 miles of sanitary and storm-water sewers (\$141 000), and design of reinforced concrete reservoir (\$250 000). TT 2.9: SP 1.9: P 1: RC 0.5: D 0.5.—Jan. 1916 to Jan. 1920 City Engr., Amsterdam, N. Y., on design and construction of extensions and reconstruction of sewerage system (\$200 000), pavements (\$250 000), reconstruction of two dams for water supply (\$80 000), new feeder mains and improvements to distribution system for increased fire supply (\$150 000), ornamental lighting system, etc. TT 4: P 4: RC 2: D 2.—Jan. to May 1920 Draftsman, Bldg. and Maintenance Dept., Gen. Elec. Co., Pittsfield, Mass. TT 0.2: SP 0.2.—May 1920 to date with City of Binghamton, N. Y., until Jan. 1924 as Deputy City Engr., on various design and construction (\$1 200 000), then City Engr., on design and construction of pavements (\$1 986 000), sewerage (\$773 000), parks and playgrounds (\$200 000), buildings (\$250 000), street lighting (\$150 000), collaborating with Cons. Engrs. on grade-crossing elimination, intercepting sewers and sewage disposal, Memorial Bridge, reconstruction of steel bridge, and city topographic survey; also Member, Board of Estimate and Apportionment, Board of Contract and Supply, and City Plan Comm. TT 9.6: P 9.6: RC 4.6: D 5.—TT 18.2: SP 2.1: P 16.1: RC 7.1: D 7.5. Refers to A. B. Cohen, C. A. Emerson, Jr., G. W. Fuller, J. A. Giles, W. B. Landreth, P. C. Ricketts, W. E. Weller.

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(3) STARR, CHARLES FEDERICK, Assoc. M., P. O. Box 42 (344 West Ave.), Rochester, N. Y. (Elected May 19, 1924.) (Age 38. Born Rochester, N. Y.) 1912 B. S., Univ. of

Rochester, 1915 C. E., Cornell Univ. *TT 4: P 4.*—July 1915 to Feb. 1917 Rodman, New York State Dept. of Highways, in charge of construction of new roads in Orleans County, in full charge of field construction, surveys, grades, inspection and estimates. *TT 1.6: P 1.6: RC 1.1: D 1.1.*—Feb. 1917 to date with Genesee Bridge Co., Inc., Rochester, N. Y., until May 1918 as Asst. Engr. on design and estimating cost of steel frames, trusses, bridges, buildings, tanks, etc., field work and drafting in connection with steel details, and since May 1918 Chf. Engr. in full charge of estimating and designing and having general supervision of office and field work in connection with steel structures. *TT 12.9: P 12.9: RC 11.6: D 8.3.*—*TT 18.5: P 18.5: RC 12.7: D 9.4.* Refers to J. F. Ancona, C. C. Cooman, R. B. Jeffers, I. E. Matthews, A. H. Metcalfe, W. F. Pond, A. R. Rellly, W. H. Roberts, L. M. Sanford, J. F. Skinner, P. Waller, W. G. Wildes.

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(14) SWEETSER, ERNEST OSGOOD, Assoc. M., Washington Univ., St. Louis, Mo. (Elected Nov. 27, 1917.) (Age 46. Born Cumberland Center, Me.) 1905 B. S. in C. E., and 1912 C. E., Univ. of Me. *TT 4: P 4.*—Sept. 1917 to March 1919 Capt., Engrs., U. S. Army, 13 months foreign service. *TT 1.4: P 1.4: RC 1.2.*—July 1905 to date (except while with Army) with Washington Univ., St. Louis, Mo., until July 1909 as Instructor in, July 1909 to Sept. 1917 and March to July 1919 Asst. Prof. of, and July 1919 to July 1925 Associate Prof. of Civ. Eng., and since July 1925 Prof. of Structural Eng. *TT 23.1: P 23.1: RC 19.1.*—*TT 28.5: P 28.5: RC 20.3.* Refers to H. S. Boardman, L. Durham, E. A. Hadley, W. W. Horner, T. J. Strickler, J. L. Van Ornum, F. C. Woermann.

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(5) TEAL, JONATHAN ERNEST, Assoc. M., 3813 Brook Road, Richmond, Va. (Elected Junior June 1, 1909; Assoc. M. Oct. 1, 1913.) (Age 45. Born Arcadia, Ind.) 1909 B. S. C. E., and 1914 C. E., Purdue Univ. *TT 4: P 4.*—May 1905 to Sept. 1907 Axeman, Chairman and Transitman, Baltimore & Ohio R. R. *TT 1.1: SP 1.1.*—June to Dec. 1908 Bridge Inspector for Tippecanoe County, Lafayette, Ind. *TT 0.3: SP 0.3.*—June 1909 to Sept. 1911 with Missouri Pacific R. R., as Asst. Engr. on surveys, construction of station buildings, etc., and Roadmaster on maintenance of 105-mile district. *TT 2.3: P 2.3: RC 2.3.*—Oct. 1911 to July 1923 Asst. Engr., Office of Gen. Mgr., Special Engr., Office of Vice-Pres., B. & O. R. R., Operating Dept., economic studies of transportation, engineering, maintenance of way, yards and terminals, and port development, unification and consolidation of railway facilities under Federal control. *TT 11.6: P 11.6: RC 7: D 7.*—Aug. 1923 to date Special Engr., Chesapeake & Ohio and Hocking Valley Rys., on staff of Vice-Pres. in charge of operation, assisting management on transportation, railway location and construction, maintenance of way and equipment, etc., also special reports, improvement budgets and economic studies incident to consolidations, etc. *TT 6.4: P 6.4: RC 6.4: D 6.4.*—*TT 25.7: SP 1.4: P 24.3: RC 15.7: D 13.4.* Refers to L. B. Allen, R. N. Begien, G. D. Brooke, C. W. Johns, H. A. Lane, W. Michel, A. W. Thompson.

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(11) VOORHEES, ISAAC SPURR, Assoc. M., 604 Mound Ave., South Pasadena, Cal. (Elected June 24, 1914.) (Age 57. Born New York City.) 1901 B. S. in Civ. Eng., Pol. Inst. of Brooklyn. *TT 4: P 4.*—June to Aug. 1901 Inspector and Instrumentman, Central R. R. of New Jersey. *TT 0.1: SP 0.1.*—Sept. 1901 to Aug. 1902 Draftsman and Computer, 4th Ave. Subway, Rapid Transit Ry. Comm., New York City. *TT 0.5: SP 0.5: D 0.3.*—Jan. to Dec. 1903 Eng. Aid, and Jan. 1904 to March 1917 Asst. Engr., U. S. Reclamation Service, engaged as follows: Jan. 1903 to April 1904 on triangulation and topographic surveys, Salt River Valley and Gila Valley projects, Ariz.; May to Nov. 1904 topographic surveys, including investigation of reservoir sites, Malheur Project, Ore.; Dec. 1904 to June 1914 on Klamath Project, Ore., 2 years on triangulation, lake and topographic surveys, canal location and in charge of canal construction, including installation of structures; 7 years Prin. Asst. to Project Engr. on estimates and design of gravity and pumping canal systems, rock fill and hollow concrete dams, flumes, bridges, buildings and reinforced concrete structures, 6 months Office Engr.; July to Dec. 1914 Asst. Engr. in charge of construction, Three Mile Falls Diversion works, Umatilla Project, west extension; March 1916 to March 1917 with Tech. Sec., Denver Office, on structural design. *TT 12.9: P 12.9: RC 3.7: D 5.7.*—March 1917 to Aug. 1927 with California Highway Comm., Div. 7, Los Angeles, until Oct. 1918 as Office Engr., then Gen. Supt. of Maintenance, March 1924–June 1927 Asst. Maintenance Engr., and after July 1927 Div. Maintenance Engr. *TT 10.5: P 10.5: RC 8.9: D 0.8.*—Aug. 1927 to date Maintenance Engr., Dept. of Public Works, Div. of Highways, Dist. 7, supervising and directing division maintenance, including preparation of estimates, control of expenditures, planning and executing improvements, etc. *TT 2.4: P 2.4: RC 2.4: D 0.2.*—*TT 30.4: SP 0.6: P 29.8: RC 15: D 7.* Refers to R. L. Anderson, S. V. Cortelyou, J. B. Lippincott, D. W. Murphy, H. D. Newell, W. W. Patch, D. L. Reaburn.

## 200

(1) **WATSON, CARL HAWLEY**, Assoc. M., 46 Grace Ave., Great Neck, N. Y. (Elected Jan. 15, 1917.) (Age 43. Born St. Louis, Mo.) 1910 C. E., Cornell Univ. TT 4: P 4.—July 1910 to July 1911 Supt. of Constr. of concrete pipe, Lock Joint Pipe Co., Milburn, N. J., and Greenfield, Mass., assisted in development of process of steam curing concrete products, inspected construction of concrete pipe sewers. TT 0.5: SP 0.5.—July 1911 to Jan. 1915 Secy. and Designing Engr., Watson Eng. Co., New York City, on design and supervision of construction of private and municipal improvement work, especially sanitary sewerage works. TT 2.8: SP 0.8: P 2: RC 2: D 2.—Oct. 1914 to April 1917 Designing and Superv. Engr., Board of Sewer Commrs., Great Neck Sewer Dist. (completed work \$115 000) and (after July 1915) also of Port Washington Sewer Dist. (completed work \$120 000), being Res. Engr. after completion; after Jan. 1915 also Designing and Superv. Engr., on highway drainage and sewerage projects for North Hempstead, being Engr. in charge of preparation of tax assessment map. TT 2.3: P 2.3: RC 2.3: D 2.3.—April 1917 to Feb. 1919 Designing and Superv. Engr., Aviation Sec., U. S. Signal Corps, at Mitchell Field, Garden City, N. Y., in full charge of design and construction of roads, water supply and sewerage systems (\$750 000), and after April 1918 for Camp Quartermaster, Camp Albert L. Mills, Garden City, in charge of sanitation (sewage-collection systems \$800 000, sewage-treatment plants \$1 200 000). TT 1.9: P 1.9: RC 1.9: D 1.9.—March 1919 to date Pres. and Gen. Mgr., Gregory Coal & Lumber Co., of Great Neck, in charge of improvements (\$200 000) of yards, buildings and equipment; Jan. 1927 to Sept. 1928 and Nov. 1928 to date also Designing and Superv. Engr., Board of Sewers Commrs., Great Neck Sewer Dist. in responsible charge of extension of sewage-collection system (\$200 000) (Jan. 1927 to Sept. 1928) and of Belgrave Sewer Dist., Great Neck, on sewage-collection system (\$650 000) and sewage-treatment plant (\$350 000) (Nov. 1928 to date), and prepared preliminary designs, plans and specifications for Manhasset (N. Y.) Sewer Dist. (estimated cost \$1 000 000), also for Belgrave Sewer Dist. at Great Neck (estimated cost \$1 000 000) (Dec. 1927 to Nov. 1928). TT 10.8: P 10.8: RC 10.7: D 4.9.—TT 22.3: SP 1.3: P 21: RC 16.9: D 9.1. Refers to W. H. Bowne, H. B. Cleveland, H. N. Ogden, C. Potts, W. F. Starks, L. C. Urquhart.

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(4) **WILLIAMS, JOHN ALONZO**, Assoc. M., 508 Wilson Bldg., Camden, N. J. (Elected Nov. 26, 1918.) (Age 38. Born Philadelphia, Pa.) 1912 diploma of Civ. Eng., Drexel Inst. May to Dec. 1912 Chalmers, Public Service Ry. Co., Camden, N. J. TT 0.2: SP 0.2.—Jan. to Oct. 1913 Draftsman and Computer, Pennsylvania Steel Co., Frog and Switch Dept., on design and computation of street railway special work. TT 0.8: P 0.8: D 0.8.—Nov. 1913 to May 1915 Rodman, Pennsylvania R. R., acting as Chf. of Survey Party and Draftsman designing culverts and making maintenance-of-way reports. TT 1.3: SP 0.2: P 1.1: RC 1.1: D 1.—May 1915 to April 1917 with New Jersey State Road Dept., until Dec. 1915 as Inspector of road construction, in general charge of inspection ( $4\frac{1}{2}$  miles), then Asst. to Engr. of Surveys, at various times being Chf. of Office, Draftsman, Chf. of Party and Computer. TT 1.5: SP 0.3: P 1.2: RC 1.2: D 1.—April to Sept. 1917 Chf. of Party, New Jersey State Highway Comm., on surveys, including preliminary line and levels on about 200 miles and detailed surveys on about 35 miles, also cost estimate on preliminary work. TT 0.4: P 0.4: RC 0.4.—Sept. 1917 to date with New Jersey State Highway Dept., until May 1919 as Asst. Div. Engr., having supervision over drafting room, survey parties and inspectors, and since then Div. Constr. Engr. in charge of surveys, design and construction of highways in Southern Div. (About  $\frac{1}{3}$  of state). TT 12.3: P 12.3: RC 12.3: D 12.3.—TT 16.5: SP 0.7: P 15.8: RC 15: D 15.1. Refers to J. L. Bauer, A. H. Nelson, H. J. Sherman, W. G. Sloan, E. B. Temple, J. L. Vogel, T. J. Wasser.

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(7) **WILLIAMS, RALPH STANLEY**, Assoc. M., 1632 Larkin St., Milwaukee, Wis. (Elected Aug. 27, 1928.) (Age 35. Born Buffalo, N. Y.) Student (3 years), Univ. of Wis. TT 1.5: P 1.5.—Oct. 1916 to Nov. 1917 Asst. Engr. of Surveys and Field Engr., Wisconsin Highway Comm., Madison, Wis., checking, filing, surveys, detailing, computations and plans. TT 0.6: SP 0.6.—Dec. 1917 to March 1918 Draftsman, Northwestern Ordnance Co., U. S. Govt. plant, Madison, on plans, computations and detailing field gun. TT 0.2: SP 0.2.—April to Dec. 1918 Instrumentman, Dupont Eng. Co., Jacksonville, Tenn., in charge of party laying out railroads, roads, sewers and buildings, later at Ives, Wis., as Asst. Engr. of construction in charge of plant layout, sewers, railroads, roads and stumping. TT 0.4: SP 0.4.—Feb. to July 1919 Draftsman, Mitchell Motor Co., Racine, Wis., mechanical drafting on automobile. TT 0.2: SP 0.2.—Aug. 1919 to April 1920 First Asst. Engr., City of La Crosse, Wis., on street and sewer work, plans, detailing, designing and surveying. TT 0.8: SP 0.1: P 0.7: RC 0.6: D 0.1.—May to Dec. 1920 Engr., field and office, Newport Chemical Co., Carrolville, Wis., surveying, resurveying entire plant and property and designing. TT 0.6: SP 0.1: P 0.5: RC 0.4: D 0.1.—



Jan. to Oct. 1921 Engr. and Estimator, American Contr. Co., Milwaukee, Wis., designing and estimating. *TT 0.8: P 0.3: RC 0.6: D 0.3.*—Nov. 1921 to June 1922 Engr. and Supt. with Scott and Mayer, Archts., Milwaukee, designing and superintending U. S. Govt. hospital. *TT 0.7: P 0.7: RC 0.7: D 0.1.*—July 1922 to Oct. 1923 Engr. and Estimator, Kalman Steel Co., Milwaukee, estimating, designing, planning and detailing. *TT 1.2: SP 0.1: P 1.1: RC 0.9: D 0.2.*—Nov. 1923 to Feb. 1927 with Herbst & Kuenzli, and Feb. 1927 to Feb. 1928 with Martin Fullgren & Sons Co., Archts., Milwaukee, as Engr. detailing, designing, estimating, planning and superintending. *TT 4.3: P 4.3: RC 4.3: D 4.3.*—Feb. 1928 to date in private practice as Civ. and Bldg. Engr. *TT 1.9: P 1.9: RC 1.9: D 1.9.*—*TT 13.2: SP 1.7: P 11.5: RC 9.4: D 7.* Refers to R. H. Cahill, G. F. Daggett, J. T. Donaghey, J. P. Schwada, C. B. Stewart, M. W. Torkelson, F. W. Ullius.

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(1) WILSON, BILLINGS, Assoc. M., 75 West St., New York City. (Elected April 19, 1920.) (Age 35. Born Washington, D. C.) 1916 Ph. B., Sheffield Sci. School, Yale Univ. *TT 4: P 4.*—Summers 1911, 1913, 1914 and 1916 and June to Nov. 1912 with Baltimore & Ohio R. R., successively as Chairman, Rodman, Levelman, Transltman, and (1916) Asst. Res. Engr., at Defiance, Ohio, on track elevation and grade separation. *TT 0.5: SP 0.2: P 0.3: RC 0.3.*—Dec. 1912 to April 1913 Chf. of Party, Interstate Commerce Comm., Canal Zone, Panama, on preliminary survey for transmission line. *TT 0.2: SP 0.2.*—Sept. 1916 to May 1917 Postgraduate Student and Asst. Instructor, Sheffield Scientific School.—July 1917 to March 1920 with Corps of Engrs., U. S. Army, as 2nd Lieut. and Capt., overseas (Nov. 1917 to Aug. 1919), being Engr. Supply Officer in charge of food, tools, machinery and supplies for water-supply, railroad, highway and hospital construction in Base Section No. 1, France; also Asst. Corps Engr. in charge of highway and barrack maintenance, 8th Corps Area and in charge of valuation of railroads captured by American forces, preparing plans and estimates for railroad construction and maintenance near Mexican border. *TT 2.7: P 2.7: RC 2.2: D 0.5.*—April 1920 to June 1922 Personal Asst. to Francis Lee Stuart, Cons. Engr., New York City, on surveys, reports, office analyses and design of export coal piers and large coal-storage plants, terminal studies for proposed 57th Street Hudson River Bridge, etc. *TT 2.2: P 2.2: RC 0.5: D 1.1.*—June 1922 to date Asst. to Chf. Engr., Mgr., Traffic and Transportation Dept. and Deputy Mgr., Port of New York Authority, New York City, in charge of investigation of properties, methods of operation, traffic, freight rate structure and operation costs of trunk-line railroads at Port of New York, also of Port Development Dept., including engineering plans and estimates for freight terminals, economic surveys, rate cases, traffic and cost estimates, new terminal projects, etc. and of operation of Goethals Bridge and The Outerbridge Crossing toll bridges between Staten Island and New Jersey. *TT 7.5: P 7.5: RC 6.5: D 2.*—*TT 17.1: SP 0.4: P 16.7: RC 9.5: D 3.6.* Refers to O. H. Ammann, R. E. Dougherty, J. B. Hawley, G. J. Ray, J. R. Slattery, F. L. Stuart, J. C. Tracy.

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(9) WOOD, CLYDE MATHESON, Assoc. M., 928 Engrs.' Nat'l Bank Bldg., Cleveland, Ohio. (Elected Oct. 11, 1920.) (Age 39. Born Macon, Ga.) 1915 B. S. in C. E., Ga. School Tech. *TT 4: P 4.*—April 1910 to Oct. 1912 and (spare time) Oct. 1912 to May 1913 Draftsman, Pratt Eng. & Machine Co., Atlanta, Ga., on design of pumping, fertilizer and sugar machinery and sugar, fertilizer and sulphuric-acid plants *TT 1.3: SP 1.3.*—Sept. 1917–May 1919 with U. S. Army, 3 months in Officers' Training Camp, Ft. Oglethorpe, Ga., then 2d Lieut. and 1st Lieut., Field Artillery, Motor Battalion, 306th Ammunition Train, 81st Div., Aug. 1918 to April 1919 with A. E. F. in France; part of time Co. Commander, Ammunition Transport. *TT 1.6: SP 0.1: P 1.5: RC 1.*—June 1915 to date (except Sept. 1917 to May 1919) with Automatic Sprinkler Corporation of America as follows: June 1915–Jan. 1916, July 1916–Aug. 1917 and June 1919 to Aug. 1924 Contr. Engr., at Atlanta, estimating, designing and contracting for automatic-sprinkler equipment and fire-protection systems, also designed a cotton warehouse, and (July 1916–Aug. 1917) Asst. to Dept. Mgr.; Feb.–June 1916 Engr., designing and estimating, New York City; Aug. 1924 to May 1928 Dept. Mgr., Atlanta territory (Georgia, Alabama and part of Florida), designing, estimating and contracting for automatic-sprinkler equipments and fire-protection systems, especially designs and equipment for severe fire hazards, directed work of contracting engineers and designed cotton warehouses costing up to \$75 000; May to Aug. 1928 with Tech. Div., Cleveland, Ohio, on research, study and design in hydraulic and combustion problems for automatic fire control; since Aug. 1928 Engr., Executive Div., Cleveland territory (United States and Canada), designing and instructing in design of fire-control and fire-extinguishing systems, promoting (through engineering instruction) improved fire-protection apparatus and principles; technical and commercial studies of special fire hazards and methods of control, etc. *TT 12.3: SP 0.5: P 11.8: RC 11.8: D 5.9.*—*TT 19.1: SP 1.9: P 17.2: RC 12.8: D 6.6.* Refers to R. S. Flske, J. H. Johnston, F. H. McDonald, R. G. Lose, C. A. Smith, C. C. Whitaker.

## FROM THE GRADE OF AFFILIATE

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(15) **FINCH, STANLEY PHISTER**, Affiliate, 3312 Duval St., Austin, Tex. (Elected Junior Oct. 30, 1906; Affiliate May 7, 1913.) (Age 48. Born Austin, Tex.) 1902 B. A. and 1905 C. E., Univ. of Tex. 1909 M. S., Mass. Inst. Tech. TT 4: P 4.—June to Sept. 1905 Rodman on bridge construction with Waddell & Hedrick, Kansas City, Mo. TT 0.1: SP 0.1.—Sept. 1905 to June 1908 and Sept. 1909 to June 1913 Instructor in, Sept. 1913 to June 1919 Adjunct Prof., Sept. 1919 to June 1923 Associate Prof. and Sept. 1923 to date Prof. of, Civ. Eng., Univ. of Texas; since Sept. 1927 also Director of Bureau of Eng. Research. TT 16.3: P 16.3: RC 11.4.—TT 20.4: SP 0.1: P 20.3: RC 11.4. Refers to E. C. H. Bantel, W. M. Elliot, J. A. Focht, A. T. Granger, A. A. Stiles, T. U. Taylor, R. G. Tyler.

## FROM THE GRADE OF JUNIOR

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(2) **ABBETT, ROBERT WILLIAM**, Jun., 280 Whalley Ave., New Haven, Conn. (Elected Jan. 14, 1929.) (Age 27. Born Jamesport, Mo.) Registered Civ. Engr., State of Michigan. 1927 B. S. in C. E., Univ. of Mo. TT 4: P 4.—Jan. to Sept. 1923 Rodman, Chicago, Burlington & Quincy R. R. Co. TT 0.4: SP 0.4.—May to Nov. 1925 Draftsman and Inspector on sewerage, pavements and street widening, for City of West Palm Beach, Fla. TT 0.2: SP 0.2.—Nov. 1925 to April 1926 Draftsman, Benham Eng. Co., Kansas City, Mo., on city maps and plans for sewerage systems, water-works and pavements. TT 0.3: SP 0.3.—April to June 1926 Instrumentman and Locating Engr. on pipe-line surveys, Shell Pipeline Corporation, St. Louis, Mo. TT 0.2: P 0.2.—June 1926 to Oct. 1928 with City of Pontiac, Mich., as Designing Engr. on plans for sewers, pavements, street widening and opening, Field Engr. on pavement construction and property surveys, Engr.-in-Chg. on design, plan, estimates and specifications and supervision of construction of additional sewage-treatment works, consisting of Imhoff tank, storm-flow by-pass and sludge-pumping layouts. TT 2.4: P 2.4: RC 2: D 1.4.—Oct. 1928 to Jan. 1929 Constr. Engr., R. H. Hidey Co., Detroit, Mich., supervising construction of reinforced concrete factory building. TT 0.2: P 0.2: RC 0.2.—Jan. to Oct. 1929 Constr. Engr., H. G. Christman-Burke Co., Detroit, in charge of layouts, form and plant designs, construction details, etc. for steel and concrete building design and construction. TT 0.8: P 0.8: RC 0.8: D 0.4.—Oct. 1929 to date Instructor in Civ. Eng., Sheffield Scientific School, Yale Univ. TT 0.2: P 0.2.—TT 8.7: SP 0.9: P 7.8: RC 3: D 1.8. Refers to C. T. Bishop, J. B. Butler, W. R. Drury, G. D. Kennedy, J. R. Pollock, R. H. Suttle, F. C. Taylor, J. C. Tracy, G. D. Whitmore.

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(4) **DOANE, LOUIS HENRY**, Jun., 136 Central Ave., North Glenside, Pa. (Elected June 19, 1922.) (Age 31. Born Vineland, N. J.) 1921 B. S. in C. E., Towne Sci. School, and 1923 M. S., Univ. of Pa. TT 4: P 4.—Summers 1921 and 1922 Special Material Inspector, Pennsylvania State Highway Dept., inspecting and investigating materials for state roads, bridges, etc. TT 0.5: P 0.5.—Sept. 1921 to June 1922 and Sept. 1922 to June 1923 Instructor in Civ. Eng., Univ. of Pennsylvania. TT 1.5: P 1.5.—June 1923 to June 1925 Associate Prof. of Civ. Eng., one year at Clemson College, S. C., then at Pennsylvania Military Coll.; had charge of highway engineering, materials testing and reinforced concrete theory and design. TT 2: P 2: RC 2.—June to Oct. 1925 Designing Engr., Kalman Steel Co., Philadelphia, Pa., detailed and designed reinforced concrete for bridges, buildings, retaining walls, sewers, etc. TT 0.3: P 0.3: D 0.3.—Oct. 1925 to April 1926 Structural Engr., The Ballinger Co., Philadelphia, designed concrete and steel frame buildings, etc. TT 0.5: P 0.5: D 0.5.—April 1926 to date Structural Engr., Philadelphia office, Portland Cement Assoc.; work includes lecturing, investigating, directing work in field, and design and re-design of schools, loft, warehouse, office and industrial buildings, apartment houses, etc., with architects and engineers. TT 3.8: P 3.8: RC 1.7: D 2.—TT 12.6: P 12.6: RC 3.7: D 0.8. Refers to L. P. Bailey, W. H. Barton, Jr., H. T. Camplon, M. A. Gerwig, W. H. Gravell, W. R. Sauter, C. H. Schwertner.

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(1) **DOYLE, WALTER HENRY**, Jun., 34 Hoyt Ave., Astoria, N. Y. (Elected March 14, 1927.) (Age 28. Born New York City.) 3 years student, Civ. Eng. course, Cooper Union Night School.—June 1919 to Feb. 1922 Engr.'s Asst. with Spencer, Fello & Spencer, Contrs. and Bldrs., Mt. Marion, N. Y., on line and level work, timekeeping, ordering material, keeping costs, etc. TT 1.3: SP 1.3.—Feb. 1922 to Nov. 1923 Engr.'s Asst. with Douglas Knox, Bronx, N. Y., being Transitman, Chainman and Rodman. TT 0.9: SP 0.9.—Nov. 1923 to Jan. 1925 Field Engr. and Asst. Supt., Rosenthal Eng. & Contr. Co., Brooklyn, N. Y., laying

out foundations, piers, cross-sectioning, setting steel grillages and concrete forms, general layout of temporary plant, figuring quantities and cost for subway and public buildings, etc. *TT 1.2: P 1.2.*—Jan. 1925 to Feb. 1926 Chf. of Party with Robert A. Smith, New York City, on surveys, lines and levels, cross-sectioning, setting and centering steel and grillages, setting piles and foundations, gathering data and making computations. *TT 1.2: P 1.2: RC 1.2.*—Feb. 1926 to date with Leonard C. L. Smith, Cons. Engr. and City Surveyor, Long Island City, N. Y., until June 1927 as Chf. of Party on surveys, laying out streets, sewers, waterways, roads, etc., establishing and designing grades and estimating, and since June 1927 Engr.-in-Chg., on design of sanitary and combined sewerage and drainage systems, highway and street pavements, culverts, retaining walls, piling and land subdivision, and in responsible charge of construction of earth-filled and timber dams and bulkheads, sumps and sewage-pumping stations, municipal engineering, land reclamation, airport building, subdivision in development work, surveys, soundings, borings, earth-bearing tests, etc. *TT 3.8: P 3.8: RC 2.5: D 2.5.*—*TT 8.4: SP 2.2: P 6.2: RC 3.7: D 2.5.* Refers to J. A. Briggs, H. K. Endemann, J. Meltzer, L. M. Schoonmaker, L. C. L. Smith.

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(10) FLOM, SAMUEL LOUIS, Jun., P. O. Box 2362, Tampa, Fla. (Elected Nov. 15, 1926.) (Age 28. Born Northampton, Pa.) Licensed Engr., State of Florida. 1921 C. E., Lehigh Univ. *TT 4: P 4.*—June 1921 to June 1922 Engr., Draftsman, Rodman and Instrumentman, Spring Brook Water Supply Co., Wilkes-Barre, Pa., on design and construction of tunnel and dam. *TT 0.5: SP 0.5: D 0.2.*—June 1922 to Feb. 1923 Engr., J. P. Howells Constr. Co., Wilkes Barre, being Gen. Foreman of road and sewer work. *TT 0.6: SP 0.1: P 0.5: RC 0.5.*—Feb. 1923 to date with Truscon Steel Co., Youngstown, Ohio, as Detaller, Designer, Checker, Chf. Engr., Florida Branch, and Branch Mgr., Tampa Office; designed (in conjunction with Archt. or Engr.) Isaac Levy and Groover Stewart drug warehouses (\$100 000 and \$175 000, 3 and 4 stories), Roebeling residence (\$125 000), Hardee County courthouse (\$125 000), etc. *TT 6.8: SP 0.2: P 6.6: RC 5.3: D 5.*—*TT 11.9: SP 0.8: P 11.1: RC 5.8: D 5.2.* Refers to R. J. Fogg, N. W. Green, G. A. Hanson, O. W. Irwin, G. G. Jacobosky, N. H. Jebejian, H. B. Miller.

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(1) GRAND, HARRIS, Jun., 44 Mason Ave., Babylon, N. Y. (Elected Jan. 18, 1926.) (Age 27. Born New York City.) 1923 C. E., Pol. Inst. of Brooklyn. *TT 4: P 4.*—July 1923 to date with New York State Div. of Highways, until Oct. 1925 as Jun. Asst. Engr., Grade 1, on construction, being Asst. to Engr.-in-Chg. of New Jersey State Line, on inspection and general supervision and computing construction records; Instrumentman and Note-keeper on various highway and bridge surveys, also on design of highways, computing quantities and compiling estimates; Oct. 1925 to Aug. 1927 Jun. Asst. Engr., Grade 2, on construction, being Engr.-in-Chg. of Massapequa-Glen Cove Highway, supervising construction and compiling of estimates, records and progress reports; also Chf. of Party and Note-keeper of highway and bridge surveys and on design of highways, bridges and drainage structures, compiling estimates of various highway projects and on design of alignment, grade and rights of way of Southern State Parkway; since Aug. 1927 Asst. Engr., Grade 1, on construction, being Engr. in Chg. of Southern State Parkway, including grade separation at Bellmore and Old Mill Roads, and Asst. Chf. Draftsman in charge of design of grade separations in Nassau and Suffolk Counties, computing rights-of-way, easements, etc. *TT 5.3: SP 1.1: P 4.2: RC 2.3: D 2.1.*—*TT 9.3: SP 1.1: P 8.2: RC 2.3: D 2.1.* Refers to H. R. Codwise, H. P. Hammond, A. E. Howland, C. W. Hudson, E. J. Squire, M. V. Zabat.

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(13) GREEN, NORMAN BOYNTON, Jun., 55 New Montgomery St., San Francisco, Cal. (Elected March 12, 1923.) (Age 31. Born Los Angeles, Cal.) 1921 A. B., Stanford Univ. 1923 M. S., Univ. of Ill. *TT 4: P 4.*—Summer 1918 Traverseman, U. S. Geological Survey, being Recorder.—Summer 1919 Rodman and Recorder, U. S. Coast and Geodetic Survey.—Summers 1920 and 1922 Asst. Engr., successively with Southern Pacific R. R., on valuation, and American Bridge Co., detailing steel.—Oct. 1923 to Jan. 1924 Jun. Engr., U. S. Bureau of Public Roads, checking designs. *TT 0.3: P 0.3.*—Jan. 1924 to Aug. 1925 Asst. Engr., Pacific Gas & Elec. Co., on specifications. *TT 1.6: P 1.6.*—Aug. 1925 to July 1926 Designer with C. H. Snyder, Cons. Engr., on buildings. *TT 0.9: P 0.9: RC 0.9.*—Sept. to Dec. 1926 Designer with Reed & Corlett, Archts., on buildings. *TT 0.3: P 0.3: RC 0.3.*—Dec. 1926 to date Cons. Engr., on structural design of buildings. *TT 3: P 3: RC 3: D 3.*—*TT 10.1: P 10.1: RC 4.2: D 3.* Refers to C. N. Bley, W. G. Corlett, M. L. Enger, J. B. Leonard, C. D. Marx, C. H. Snyder, C. B. Wing.

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(12) GREENE, EDWARD LLOYD, Jun., 1845 South John St., Salem, Ore. (Elected Nov. 14, 1927.) (Age 31. Born Dubois, Pa.) 1927 B. S. C. E., State Coll. of Wash. *TT 4: P 4.*—



June to Oct. 1920 Instrumentman on surveys, etc., with L. O. Howard, Min. Engr., Pullman, Wash. *TT 0.1: SP 0.1*.—Oct. 1920 to Jan. 1921 Rodman, Montana State Highway Dept., on construction. *TT 0.2: SP 0.2*.—Summer 1921 Inspector of concrete curbs, sidewalks, paving and sewers, city of Pullman.—Summer 1922 Chalmers, Washington State Highway Comm., inspecting, computing and drafting.—Feb. to May 1923 Topographical Draftsman, Spokane Valley Farms Co., Spokane, Wash. *TT 0.2: SP 0.2*.—May 1923 to Sept. 1924 Office Engr., Dept. of Sewers and Water Works, Longview, Wash., in charge of office records, design of sewers, three sewage-pumping plants, water distribution, reservoir. *TT 1.2: SP 0.2: P 1: RC 1: D 1*.—Sept. 1924 to June 1928 (except 9 months at college) with J. D. Hanley, Gen. Contr., at Kelso, Wash., until Dec. 1926 as Office Engr., then Supt., on cost estimating, records, purchasing, design of plant, superintendence of field and office on sewer and water-works construction. *TT 3: P 3: RC 3: D 1*.—June to Aug. 1928 with Longview, Portland & Northern Ry., Longview, on valuation surveys, investigating and estimating records for valuation. *TT 0.2: P 0.2: RC 0.2*.—Aug. 1928 to Oct. 1929 member of firm, Norris & Greene, Kelso, on surveys, reports, supervision of municipal improvements, subdivisions, etc. *TT 1.2: P 1.2: RC 1.2: D 0.6*.—Oct. 1929 to date Asst. Engr., Public Works Eng. Corporation, Salem, Ore., on inspection and design of water-works. *TT 0.2: P 0.2: RC 0.2: D 0.1*.—*TT 10.3: SP 0.7: P 9.6: RC 5.6: D 2.7*. Refers to R. H. Corey, J. W. Cunningham, C. M. Howard, A. H. Labsap, J. R. McAuliffe, C. Myers, H. E. Phelps, M. K. Snyder, O. L. Waller.

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(9) JENNINGS, ROBERT BOND, Jun., 86 West Como Ave., Columbus, Ohio. (Elected July 11, 1927.) (Age 28. Born Columbus, Ohio.) 1925 B. C. E., Ohio State Univ. *TT 4: P 4*.—Summers 1917–1921, 1923 and 1924 and Jan. 1922 to Jan. 1923 with Jennings-Lawrence Co., Civ. and Mun. Engrs., Columbus, Ohio, as Rodman, and Instrumentman on surveying, street, sewer and water-works construction, etc. *TT 1: P 1*.—Jan. to March 1925 Rodman, Chesapeake and Ohio Northern R. R. *TT 0.1: SP 0.1*.—March to Dec. 1925 Rodman and Instrumentman in charge of field party, double-track construction for Hocking Valley R. R. *TT 0.6: SP 0.1: P 0.5*.—Jan. 1926 to date with Div. of Eng., City of Columbus, Ohio, until June 1926 as Draftsman, assisting on design of small sewers and contract drawings, then Asst. Engr. (1½ years), Senior Asst. Engr. (1 year) and Designing Engr. (1 year), Sub-Div. of Sewerage Relief, assisting on and (after Jan. 1928) in responsible charge of design of sewers, being Prin. Asst. *TT 3.9: SP 0.3: P 3.6: RC 2.1: D 2.1*.—*TT 9.6: SP 0.5: P 9.1: RC 2.1: D 2.1*. Refers to R. A. Allton, O. Bonney, E. G. Bradbury, J. H. Gregory, C. T. Morris, R. H. Simpson, R. N. Wald.

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(10) LEE, WILLIAM STATES, Jr., Jun., 2601 Sherwood Ave., Charlotte, N. C. (Elected July 11, 1927.) (Age 27. Born Columbus, Ga.) 1924 C. E., Princeton Univ. *TT 4: P 4*.—July 1924–Sept. 1925 with Duke Price Power Co., until Oct. 1924 to Feb. 1925 in Montreal, inspecting fabrication of Stoney Gates in shops of Canadian Vickers, Ltd., and pivot gates in shops of Dominion Bridge Co.; Feb. to June 1925 Asst. to Steel Supt., on erection of gates, hydraulic turbines, etc. at Isle Maligne Station; after June 1925 Instrumentman on railway location, layout of aluminum plant and survey for hydro-electric plant. *TT 1.1: SP 0.1: P 1*.—Oct. 1925 to date with W. S. Lee, Cons. Engr., and (since April 1929) W. S. Lee Eng. Corporation, until June 1927 as Designing Draftsman, on hydro- and steam-electric stations and various structures, then in charge of Charlotte office, general supervision, estimates and specifications, etc., since April 1929 being Vice-Pres. of the Corporation. *TT 4.2: P 4.2: RC 1.5: D 1.7*.—*TT 9.3: SP 0.1: P 9.2: RC 1.5: D 1.7*. Refers to O. B. Bestor, F. H. Cothran, T. H. Hogg, W. S. Lee, J. W. Rickey.

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(5) MACKENZIE, RAY ELLIOTT, Jun., Immigration Bldg., Ft. McHenry, Baltimore, Md. (Elected Jan. 16, 1922.) (Age 31. Born Wilmington, N. C.) 1920 graduated, N. C. State Coll. June 1920 to Dec. 1921 and Sept. 1922 to Dec. 1923 with U. S. Reclamation Service, until Dec. 1921 as Instrumentman, Chf. of Field Party, at St. Ignatius, Mont., drafting, design, reports, estimates, cost studies, surveys, canal and structure location, and after Sept. 1922 Jun. Engr., at Baker, Ore., and Sunnyside, Wash., on canal and structure location, mapping, design drafting, estimates, stream gauging and hydrographic studies. *TT 2.6: SP 0.4: P 2.2: RC 0.9*.—Jan. to Aug. 1922 Draftsman, North Carolina Highway Comm., Charlotte and Raleigh, drafting, reports, bridge design, cost estimates and analysis. *TT 0.3: SP 0.3*.—Jan. 1924 to Aug. 1927 with U. S. Engr. Office, until March 1925 as Jun. Engr. at Cincinnati, Ohio, being Squad Boss in charge of design and estimate of locks, dams, bridges, tunnels, etc., for investigation of proposed barge canal; then Asst. Engr. at Huntington, W. Va., in charge of special investigations and reports for Federal Power Comm. and Corps of Engrs., including power, power-navigation, flood prevention, economic and hydraulic investigations and reports. *TT 3.6: P 3.6: RC 3.6: D 3.2*.—Sept. 1927 to Aug. 1929 Asst.

Engr., Aluminum Co. of America, Pittsburgh, on hydraulic research, investigations and studies for water-power projects, including analysis of resources of Southern and Canadian streams and studies for power interconnection. *TT 2: P 2: RC 2.*—Sept. 1929 to date Associate Hydro-Elec. Engr., U. S. Engr. Office, Baltimore, Md., being Office Engr. in charge of investigation of resources of Susquehanna River basin for water power, flood control and navigation. *TT 0.4: P 0.4: RC 0.4: D 0.4.*—*TT 8.9: SP 0.7: P 8.2: RC 6.9: D 3.6.* Refers to R. F. Ewald, C. I. Grimm, N. B. Hunt, C. W. Kutz, H. G. Peterson, J. W. Rickey, H. S. Schick.

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(14) **MALCOM, VINCENT VALENTINE**, Jun., 6516 North Thirty-Second St., Omaha, Nebr. (Elected March 5, 1928.) (Age 30. Born Anthon, Iowa.) 1921 B. S. in C. E., Iowa State Coll. *TT 4: P 4.*—June 1921 to Sept. 1922 Farmer with G. W. Malcom, Oto, Iowa. —Sept. 1922 to June 1923 Supt. of Schools, Baltic, S. Dak. —June 1923 to Sept. 1926 with Illinois Highway Dept., until Aug. 1925 as Jun. Testing Engr., inspecting materials and on research work, then Asst. Engr. of Materials, on research and publicity work. *TT 3.3: P 3.3: RC 2.8.*—Sept. 1926 to Sept. 1927 Research Engr., Tennessee Highway Dept., research on concrete. *TT 1: P 1: RC 1.*—Sept. 1927 to date with Philip Carey Co., Omaha, Nebr., until Aug. 1928 as Field Engr., being Eng. Representative then Dist. Representative in charge as Factory Representative for engineering and sales, and since Feb. 1929 Dist. Mgr. in charge of district office. *TT 2.5: P 2.5: RC 1.5.*—*TT 10.8: P 10.8: RC 5.3.* Refers to H. F. Clemmer, J. S. Dodds, R. H. Findley, C. V. R. Fullenwider, H. C. Jussen, D. D. McGuire, L. E. Whitaker.

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(13) **NEILL, CLAYTON BEWLEY**, Jun., 485 California St., San Francisco, Cal. (Elected Dec. 5, 1927.) (Age 31. Born Butlerville, Ind.) 1923 A. B. in Civ. Eng., Stanford Univ. *TT 4: P 4.*—Aug. to Oct. 1922 Transitman on power-line survey, and Oct. to Dec. 1924 compiling data for water-use report, with Turlock (Cal.) Irrigation Dist. *TT 0.1: SP 0.1.*—Oct. 1923 to June 1924 and Dec. 1924 to July 1925 with Merced (Cal.) Irrigation Dist., as Asst. Engr., Transitman, Levelman, on design, work on flood control report, also Inspector on concrete pipe lines, steam gauging, design of booster plants. *TT 0.7: SP 0.7: D 0.4.*—Sept. to Dec. 1925 Inspector of Warrenite bitulithic paving, Warren Bros. Co. *TT 0.2: SP 0.2.*—Dec. 1925 to Sept. 1927 Asst. Engr., Oakdale (Cal.) Irrigation Dist., on reservoir surveys, Transitman, Computer on Melones dam and railroad, Res. Engr. on work at Town of Melones, general irrigation work. *TT 1.2: SP 0.4: P 0.8: RC 0.8: D 0.3.*—Sept. 1927 to date Jun. Engr., Loveland Engrs., Inc., San Francisco, Cal., on appraisal of public-utility systems, at present in charge of core drilling on a damsite. *TT 2.3: P 2.3: RC 2: D 2.*—*TT 8.4: SP 1.3: P 7.1: RC 2.8: D 2.7.* Refers to F. M. Faude, J. C. L. Fish, G. L. Henderson, Jr., C. D. Marx, R. V. Melkle, C. I. Rhodes, R. White, A. J. Wiley, C. B. Wing.

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(1) **ROONEY, WILLIAM FRANCIS**, Jun., 11 Broadway, New York City. (Elected April 7, 1924.) (Age 31. Born New York City.) 1920 Sc. B. in C. E., Brown Univ. *TT 4: P 4.*—June to Nov. 1920 Draftsman, Turner Constr. Co., New York City. *TT 0.2: SP 0.2.*—Nov. 1920 to Dec. 1925 Fire Protection Engr. with Johnson & Higgins, New York City. *TT 4.5: SP 0.5: P 4.*—Jan. 1926 to date with Tide Water Oil Co., New York City, 3¼ years as Fire Protection Engr., then Constr. Engr. *TT 4: P 4: RC 4.*—*TT 12.7: SP 0.7: P 12: RC 4.* Refers to C. H. Gaedcke, A. B. Heiser, J. E. Hill, A. W. Stephens, S. Wilmot.

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(13) **THAIN, ALEXANDER**, Jun., Burney, Cal. (Elected Nov. 12, 1928.) (Age 31. Born San Francisco, Cal.) 1922 A. B. in Civ. Eng., Leland Stanford, Jr., Univ. *TT 4: P 4.*—June 1922 to Aug. 1928 with Bureau of Public Roads, Dist. 2, San Francisco, Cal., as Highway Draftsman, Senior Engr., Inspector-Foreman, acting as Draftsman, Instrumentman, Inspector, Chf. of Party, Bridge Inspector and Res. Engr. on construction. *TT 6.1: P 6.1: RC 2.1.*—Aug. 1928 to date Asst. Res. Engr. and Res. Engr. on bridge construction, Bridge Dept., California Div. of Highways, Sacramento. *TT 1.5: P 1.5: RC 0.6.*—*TT 11.6: P 11.6: RC 2.7.* Refers to L. Brown, V. A. Endersby, T. E. Ferneau, J. L. Mathias, F. W. Panhorst, R. Pearson, C. H. Sweetser.

*The Board of Direction will consider the applications in this list not less than thirty days after the date of its issue.*